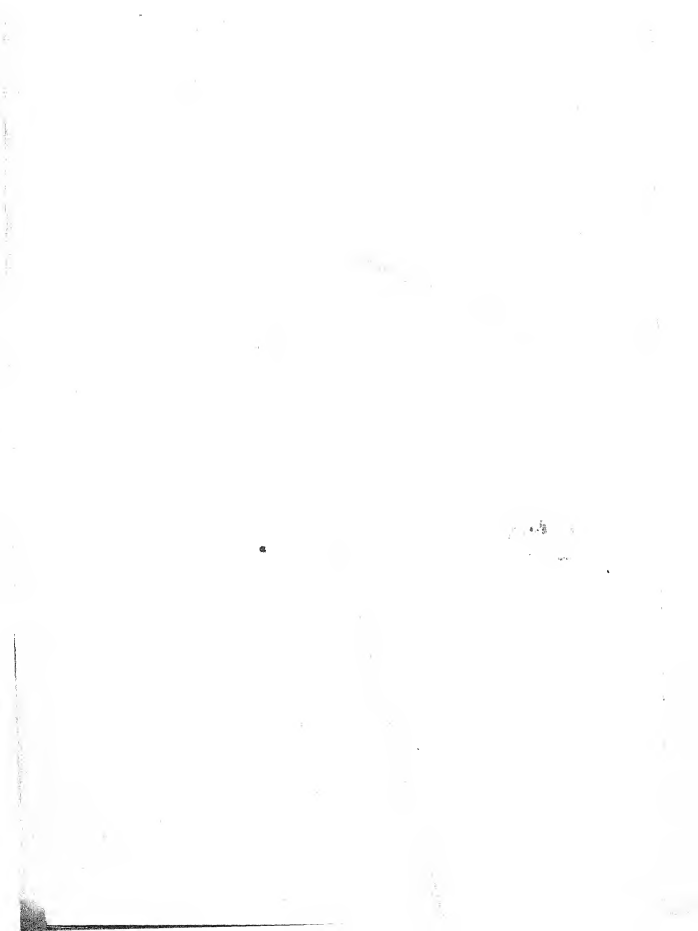


Cambridge Geographical Series.

GENERAL EDITOR :—F. H. H. GUILLEMARD, M.D.,
LATE LECTURER IN GEOGRAPHY IN THE UNIVERSITY OF CAMBRIDGE.

7.13.10

OUTLINES OF MILITARY GEOGRAPHY.



London: C. J. CLAY AND SONS,
CAMBRIDGE UNIVERSITY PRESS WAREHOUSE,
AVE MARIA LANE.
Glasgow: 263, ARGYLE STREET.



Leipzig: F. A. BROCKHAUS.
New York: THE MACMILLAN COMPANY.
Bombay: E. SEYMOUR HALE.

OUTLINES

OF

MILITARY GEOGRAPHY



BY

T. MILLER MAGUIRE, LL.D.

OF THE INNER TEMPLE, BARRISTER-AT-LAW ;
LIEUTENANT, INNS OF COURT RIFLE VOLUNTEERS.

Cambridge :

AT THE UNIVERSITY PRESS.

1899

[*All Rights reserved.*]

Cambridge :

PRINTED BY J. AND C. F. CLAY,

AT THE UNIVERSITY PRESS.



✓

Dedicated, by permission,

TO

GENERAL HIS ROYAL HIGHNESS

The Duke of Connaught and Strathearn

(PRINCE ARTHUR),

K.G., P.C., K.T., K.P., G.C.S.I., G.C.M.G., G.C.I.E., K.C.B.,

WHOSE KEEN INTEREST

IN EVERY DETAIL OF THE MILITARY ART

RECEIVES THE HEARTY ADMIRATION

OF EVERY SECTION OF OUR NATIONAL FORCES;

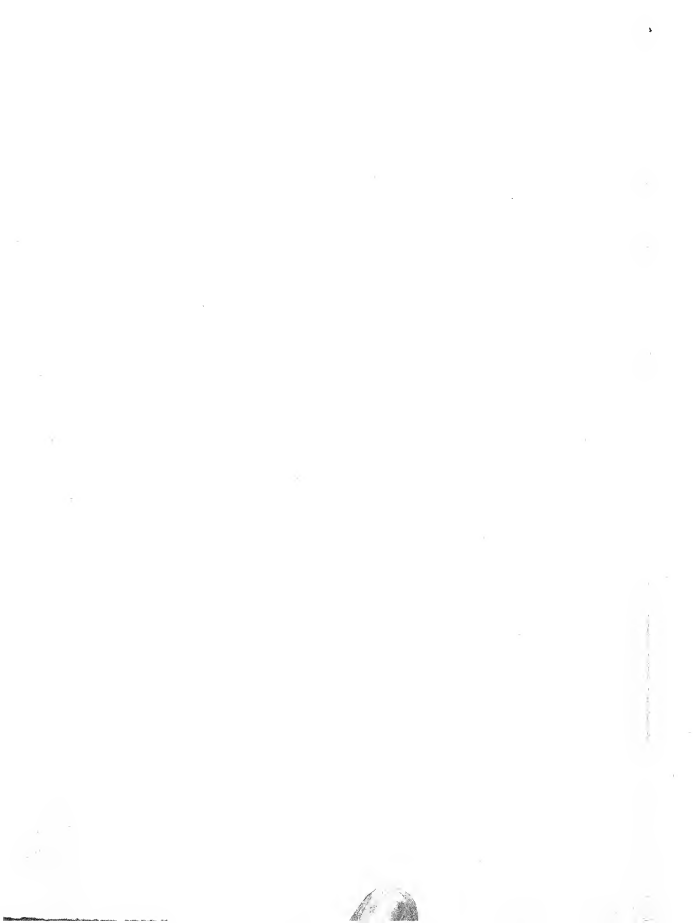
AND WHOSE VARIED EXPERIENCES

IN SO MANY OF THE TERRITORIES BELONGING TO

THE VAST EMPIRE OF HER MAJESTY THE QUEEN

ARE IN THEMSELVES

AN EPITOME OF STRATEGIC GEOGRAPHY.



CONTENTS.

CHAPTER I.

	PAGE
THE IMPORTANCE OF THE STUDY OF MILITARY GEOGRAPHY	I

CHAPTER II.

THE LEADING PRINCIPLES OF STRATEGY AND MILITARY GEOGRAPHY	14
---	----

CHAPTER III.

OTHER STRATEGICAL CONSIDERATIONS	51
--	----

CHAPTER IV.

COMMAND OF THE SEA	75
------------------------------	----

CHAPTER V.

THE STRATEGIC IMPORTANCE OF THE MEDITERRANEAN SEA	104
---	-----

CHAPTER VI.

THE UNITED KINGDOM WITH REGARD TO SEA POWER .	126
---	-----

CHAPTER VII.

	PAGE
THE STRATEGIC RELATIONS OF EUROPE WITH OTHER CONTINENTS	148

CHAPTER VIII.

FRONTIERS IN THEIR RELATION TO MILITARY OPERA- TIONS	162
---	-----

CHAPTER IX.

FORTIFICATION AS RELATED TO MILITARY GEOGRAPHY .	182
--	-----

CHAPTER X.

THE PRINCIPAL ROUTES OF INVASION, AND MAIN LINES OF COMMUNICATION	226
--	-----

CHAPTER XI.

EUROPEAN DEFILES AND ROADS	261
--------------------------------------	-----

CHAPTER XII.

HISTORIC LINES OF INVASION	284
--------------------------------------	-----

CHAPTER XIII.

HISTORIC LINES OF INVASION (<i>continued</i>)	305
---	-----

CHAPTER XIV.

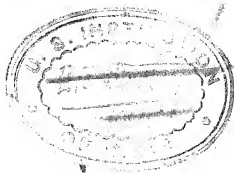
INFLUENCE OF CLIMATE ON MILITARY OPERATIONS .	324
---	-----

MAPS AND ILLUSTRATIONS.

	PAGE
1. Niger Company's Troops marching to Kabba, Jan. 1897 .	21
2. Diagram illustrating Strategic Methods (from Rüstow) .	23
3. Map showing Operations in Bohemia, June, 1866 (Official, Prussian).	26
4. Map illustrating the Virginian Campaign of 1862	27
5. Plan of the Siege of Sebastopol, 1854-5	41
6. Plan of the Battle of Sédan, Sept. 1, 1870	50
7. Passage of the Zamburak Kotal by Gen. Sir F. Roberts, Aug. 12, 1880	69
8. Plan of the Fortifications of Valetta in 1800	109
9. Siege of Lille by Marlborough and Eugene in 1708	to face 186
10. The Lines of Torres Vedras, 1810	191
11. Environs of the Petitcodiac River	195
12. Plan of the Fortress of Antwerp (from Pierron).	201
13. Map of Petersburg and its Environs, 1864	207
14. Plan of the Château Gaillard (from Pierron)	209
15. Attack on Advanced Lunettes, Strasburg, 1870 (Official, Woolwich)	211
16. Sketch Map of the Indian Frontier	to face 227
17. View of the Upper Swat Valley	231
18. Attack on Peiwar Kotal, December 2nd, 1878	233
19. Section of Railway over Gokteik Gorge, Burma, 1899	243
20. Storming of Badajoz in 1812	268
21. The Chief Lines of Road in the Roman Empire (from Tozer's <i>Ancient Geography</i>)	to face 273
22. Sketch of British Assault on Agrah Village, 1897	281
23. Alexander's Eastern Expedition (from Tozer's <i>Ancient Geography</i>)	to face 288
24. Siege of Marseilles by Cæsar, B.C. 49 (from Folard's <i>Polybius</i>)	to face 295
25. Timurlane's Dominions, 1404 A.D.	308
26. Sketch of the Battle of Bida, Jan. 26, 1897	to face 326
27. Map of Sebastopol and its Environs in 1855	to face 341

Illustrations 1, 7, 17, 19, 22, and 26 are by the kind permission of Field-Marshal Lord Roberts, V.C., Lieut. Vandeleur, D.S.O. Scots Guards, Viscount Fincastle, V.C., 16th Lancers, and Mr E. Wagstaff.





CHAPTER I.

THE IMPORTANCE OF THE STUDY OF MILITARY GEOGRAPHY.

THE history of Europe and America for the last fifty years must have shaken the convictions of even the most obstinate among those who hold that the regeneration of society is to be accomplished by peace, and by peace alone.

No historian for some generations to come will venture to assert, as did the late Rev. R. Green, that war plays a small part in the real story of European nations. Wars have of late been frequent on both sides of the Atlantic, and have been waged with a destructive fury far beyond the imaginations of even Napoleonic warriors.

In the United States of America, a civil struggle, starting with abstract principles of philanthropy and mere constitutional quibbles, developed into a conflict which in four years caused the Federals alone a loss of 500,000 men, and about £1,000,000,000 of money. Nor was there, as some believe, any mitigation of the horrors of war; the mine at Petersburg recalled the breach of Badajoz; Grant at Cold Harbour rivalled the pertinacious assaults of Napoleon at Borodino; the passages

✓ of the Rappahannock were as deadly as any battles on the Elbe; starvation was employed as ruthlessly at Richmond and at Vicksburg as at Londonderry or at Ulm.

Reille or Suchet would not have dared to make such a devastating clearance of the property and people of Navarre or Valencia as was effected in Georgia by Sherman. Sheridan proved that the stern exigencies of conquest applied as fully to the beautiful valley of the Shenandoah in the nineteenth century as to Saxony in the seventeenth, or to Bavaria in the eighteenth.

1873 The generation of young Britons who lived between the date of the campaign of Waterloo and that of the Crimea, not having before their own eyes any spectacle of the vastness of war, studied with amazement records of the old migrations of warriors, who, under the wild leadership of Gothic or Hunnish chiefs, imposed the barbarism of Asia on the art and opulence of southern and western Europe. But the Franco-German war began August 2nd, 1870, and before the 1st of October all Gibbon's records of invasion had ceased to surprise. Far different were the intellectual culture, the personal habits, and the moral aims of Attila and Von Moltke, but as far as Gaul was concerned the result was the same, the regular military forces disappeared by hundreds of thousands, dead or prisoners, at the end of one month; the citizens of the vast and splendid capital were shut up to starve before the end of the second. Nor could the brilliant efforts of Gambetta and his heroes, nor the dreadful sufferings endured by his hordes of levies, bring about any such retribution as Theodoric and Aetius inflicted on the "Scourge of God." D'Aurelle de Paladines

and Faidherbe, Chanzy and Bourbaki, vainly struggling too late, only added to the heaps of slaughter and the prodigious cost. A million of German soldiers crossed the Rhine before the end of 1870, and their successors have ever since remained in Alsace and Lorraine. It is true the invading armies did not return with such loot as Attila brought from Italy to his villa on the northern bank of the Danube, but their leaders exacted no less than £26 from every family in France. How was this? Simply because for a generation the leaders of the German race had devoted themselves with constant zeal to profound studies of strategy and military geography in all its bearings, and during the struggle had acted on the knowledge thus acquired. They were ready for war in its most highly developed form, their adversaries were neither as well trained nor as well prepared. There was no other reason. ✓

But this is only that old oracle of time, hearkening to which gave Philip of Macedon and his "godlike son" the command of Europe and of Asia from Attica to the Oxus—the oracle which was voiced again in the days of Elizabeth by a sage as wise as was the tutor of Alexander. The French and British had forgotten for a time, but the Germans had remembered, Bacon's philosophy:—"above all for Empire and greatness it importeth most that a nation do profess arms as their principal honour, study, and occupation." ✓

In the days of Queen Elizabeth the glory of the Sultan had not yet decayed. For a long time after the death of Bacon, it might be said in his words "by their profession of arms the Turks do wonders." The Greeks in 1897 declared war against the comparatively feeble

successor of Suleyman the Magnificent with hearts as light as M. Olivier's in 1870. But the Turks in their political decay had remained soldiers. Greece would have been even more completely overwhelmed in 1897 than was France in 1870, and the Athenians would have experienced the fate of the Parisians, but for the intervention of Europe at large.

Yet the ancestors of these same Greeks had spirits as stout and warlike as ever inhabited the breasts of the followers of the Prophet. The small force which Alexander conducted from Thrace to Syria, and from Egypt to Bactria, and back through Persia to Babylon in eleven years, taught posterity this lesson, "walled towns, stored arsenals and armouries, goodly races of horse, chariots of war, elephants and ordnance, and the like,—all this is but sheep in a lion's skin unless the breed and disposition of the people be stout and warlike."

The fate of Asia two thousand years ago will most assuredly be the fate of any modern state which is not ready on any just occasion for arming. Politicians who are so devoted to the ephemeral questions of the hour as to neglect a study of the military resources of their community as compared with those of others, and who do not organize the power of their state betimes, are courting disgrace for themselves and disaster for their nation. The lessons of antiquity have been rewritten in the largest letters in the annals of our own time; it behoves all who govern or guide their fellow-citizens to study these lessons well, and, taught by the dread experiences of others, to be wise in time. If it be clear that their people are not fit to fight, bold to fight, and

armed at all points for a fight, they should forthwith make all other political and social questions subordinate to the duty of introducing such ordinances, institutions, and customs in this respect as may insure greatness to posterity.

But to turn from strategy by land to strategy by sea—to the British nation a branch of learning which it is now impossible to ignore. A citizen who is quite ignorant of our strategic geography so far as it relates to command of the sea can scarcely comprehend the contents of his newspaper, and is unfit to discuss any economic question relating to the conditions of our national life. The past story of our isles was bound up with the sea; our present existence, our future position depend upon the sea, and there can be no excuse now-a-days for not understanding the whole mystery of Sea Power.

A generation ago the corn of naval strategy was hidden in the chaff of so many bushels of tactical narratives that few laymen could understand how sailors fought battles, or what were the principles underlying long-continued naval manœuvres, either in the Mediterranean Sea, the "narrow seas," or the ocean at large. But the American, Captain Mahan, assisted recently by many Britons, has so cleared up the mystery that the leading features of naval operations, their objects, and the necessary consequences of defeat under certain conditions, ought to be as obvious to every educated man in our isles as the postulates of Euclid.

Such is the supreme importance of the issue,—our retention, or our loss of Sea Power,—that a short course of training in the records of our maritime life should be part of every scholastic curriculum, and a few works like

Mahan's should undoubtedly be included in every University course. If we suffered a series of defeats at sea similar to the battles of Woerth, Spicheren, Vionville and Gravelotte in one fortnight, there can be no doubt that we should have to capitulate at discretion. The enemy need not trouble about a Sedan. But France, in spite of all these, and the fall of Strasburg and Metz, was able to combat with vigour till February, 1871. All classical students are well aware of the value of sea power to the Greeks in their operations against the Asiatics, and when fighting among themselves. The Romans, whose military instinct was for many centuries unerring, determined to secure it, and it was a valuable weapon against Hannibal. The battle of Actium decided the empire of the world; the battle of Lepanto arrested the progress of the Turk.

The old story, like all other strategic stories, was repeated and emphasised by the Elizabethan writers. When Spain was at the height of her power, it became clear to our people that the command of the sea is an "epitome of monarchy," and that the command of both Indies was incidental to command of the sea. American naval experts have clearly apprehended these doctrines; and the superiority of the American to the Spanish fleet in the recent war (1898) has given the United States control of both Cuba and the Philippines. Our own navy had taken both Havana and Manila after the battles of Ushant and Lagos had made Great Britain ruler of the sea during the Seven Years' War.

The importance, therefore, of the study of strategy and of geography to statesmen is unquestionable. Many

of our international difficulties could never have arisen had the leaders of either political party been possessed of any sound knowledge of military or political geography. Our diplomacy has drifted into strange blunders, not so much through lack of skill as through lack of knowledge. Delagoa Bay, the key of South Africa, is a striking example; so are several districts on the borders of Canada. The frequent assertions that no Power could move from the Caspian Sea to the frontiers of Afghanistan in less than a generation were readily accepted as political arguments twenty years ago, although Alexander the Great had traversed the same territory with ease in a couple of years. The Russians conquered the Caucasus in 1859, were in Khiva in 1873, and in Merv in 1884. A very rudimentary knowledge of the movements of armies from the valleys of the Euphrates and Oxus, and from the Khanates of Tartary towards India, from the days of the early Persians to those of Nadir Shah, would have prevented much wild talk on public platforms between the years 1876 and 1882.

A popular fallacy much applauded in political speeches by people who would have known better had they been taught the rudiments of strategy, is that if any foreign Power dared to violate the sanctity of our shores, "our people would rise as one man," and drive the invaders into the sea. This pious opinion has been publicly promulgated by more than one statesman of eloquence and repute. Nothing can be more certain than that not once in history has this kind of event taken place. Our ancestors were not so foolish; they did not wait for Napoleon's invasion to commence

drill ; they began to organize and drill before Napoleon accepted war in 1803 and more than a year before he could have possibly arrived, and yet Sir John Moore told Mr Pitt that he dared not bring his volunteers into the first line. The enormous levies of Gambetta, whether on the Somme or the Loire, the Huisne or the Lisaine, —though sometimes four to one and well armed—were repulsed with ease on the offensive or defensive by every German corps commander who came across them. Neither the bravery nor the mountains of the Tyrolese could keep out the French in 1809. The Spanish insurgents, though fanatical, patriotic, and numerous to a remarkable degree, and with every topographical advantage in their favour, whether in the open field as at Ocano, or behind walls as at Saragossa, were crushed, and Spain was only saved by British regular troops. How much misery would have been spared if the ordinary member of a Cabinet only understood that the supply of food to an army, and an efficient ambulance service, are fully as necessary as rifles or cannon. He would learn this in half-an-hour in any strategy class, but the statesmen of England who despatched troops to perish of want in the Crimea, and the wire-pullers of the United States who sent out their soldiers to unhonoured graves in Cuba, were alike lacking in knowledge. In each case the injury caused by the activity of the enemy was small compared with that inflicted by the ignorance of the authorities.

But enough for the general utility of this study. That soldiers of all classes, regular and auxiliary, should be as well versed in strategic geography as opportunities allow, would seem at first sight a self-

evident proposition. Barristers study every precedent relating to their profession, so do physicians, and so would the most practical soldier, if he could get time. "Our officers were not bothered with strategy and tactics in the days of Marlborough and Wellington," say some! Yet as a matter of fact young Churchill learned Vegetius by heart, and Wellington went through careful studies under a military tutor in France as a boy, and was a habitual student when a man. When he commanded the army of occupation in France after Waterloo he regularly studied four hours daily, and declared that this had been his custom throughout his Indian career, yet he was also able to find time to be a rider to hounds. Not only so, but some of the most able soldiers have also been writers on Military History, from Caesar to Marmont, and from the Archduke Charles to Marshals Wolseley and Roberts. The most eminent officers who led armies to victory during the American Civil War had gone through a sound course of study in strategic geography, and all sciences relating to the art of war, at West Point, one of the best educational institutions in the world. Jackson was a Professor before he became a General. Sherman was one of the ablest commanders on the Federal side, and he felt so keenly the necessity for a knowledge of geography that he wrote to his friend Ewing in 1844:—"Every day I feel more and more in need of an atlas, as the knowledge of geography in its minutest details is essential to a true military education. I wish, therefore, you would procure me the best geography and atlas extant." Twenty years later his well-stored brain enabled him to start with confidence on his adventurous martial pilgrimages from Chattanooga to

Atlanta, and thence to Savannah by the sea. Yet Sherman was also a great sportsman.

Napoleon during his operations by the banks of the Danube, in 1809, and the banks of the Elbe, in 1813, worked out the campaigns of Marshal Saxe and of Gustavus Adolphus. Before his campaign of 1796 in Italy, the young general Bonaparte procured and studied diligently at considerable cost the best treatises on the geography of northern Italy, and before his campaign of 1815 in Belgium the Emperor Napoleon wrote to his Minister of War:—"Get me a *précis* of everything that has taken place in the past with regard to campaigns along our Eastern frontier, and also state the positions taken up in order to secure co-operation by the armies of the Moselle and the Rhine." Old Marshal Blücher said to his Chief of the Staff—"the brain of the army"—Gneisenau, during the Seine and Marne campaign of 1814, "Gneisenau, if I had only studied, what a man I might have been!" But, though not learned himself, he recognised and used the knowledge of others.

The Prussian Staff Officers, having learned the folly of being behind the times by the disasters of 1806, have devoted themselves to elaborate studies of strategy and geography, not only by means of books, but by travel, and following in person each campaign. For example, Moltke voyaged in Turkey in 1829, and thence to the valley of the Tigris, about which he wrote a very interesting treatise, which Lord Wolseley says he read in the trenches before Sebastopol. German officers have served in Spain, in the Caucasus, in India, in the United States. The superior officers and generals of

Germany are splendidly educated, and of high intellectual capacity.

War never leaves a country as it found it; whether a nation fails or wins, its whole future is profoundly modified. No pains are too great, no expense too heavy, no strain too severe, if the result be success when a decisive conflict comes, as come it must. The Germans are the most highly educated nation in the world, and yet they are a "nation in arms": and their leaders are as sound in brain as in body, even as was old Moltke when he directed the passage of the Reisingebirge in 1866, or of the Vosges in 1870. They are as well versed in precedents as the ablest judge. They cannot be promoted until their knowledge and energy and prescience are beyond dispute. It is equally beyond dispute that before 1870 the officers of the French army were not properly qualified to lead any troops. They were brave and knew the tactics of the parade ground, and had had some fighting experience in Algeria, but they did not know the geography of north-eastern France. Many of the generals had never opened the pages of modern strategists. In this respect they were far below Austrian and Russian soldiers, not to speak of their own immediate foes. They repudiated the notion of organization and of mobilization and schemes carefully drawn up well in advance. In consequence, after the reverses of August 6th, they were quite unable to form a plan that would suit the defence of the Moselle, nor had they any idea of how to seize and fortify a flank position like Osman's at Plevna. When at last they tried to recombine their scattered corps, and MacMahon moved to the relief of Bazaine, they puzzled their adversaries by the

mere absurdity of their operations. The German staff could not credit the news that MacMahon was marching from Chalons to Metz, close to the neutral frontier of Belgium, and around the right flank of two armies nearly twice as numerous as his own. But once they realised the truth, such was their knowledge of the strategy that would suit the country, that in less than twenty-four hours they had changed the direction of the marches of 250,000 men from east to west, the left leading, to from south to north, the right leading, and proceeded to traverse the roads of the Ardennes as coolly as if they were in Bavaria or Saxony. In a week they had captured MacMahon and his 83,000 exhausted and half-starved followers.

Continuous labour to perfect our national offensive and defensive naval and military systems must, therefore, for a long time to come, be the highest political wisdom. Inasmuch as no veterans among the inhabitants of our islands have had any practical experience of what the consequences of defeat in a decisive campaign and invasion could mean to the United Kingdom, our people are the least prepared for them. The people of the United States are much better prepared ; their older citizens by the banks of the Potomac, the Mississippi, and the James have a lively recollection of the proceedings of advancing and retreating hosts. Having regard not only to the enormous expenditure on armies and navies in Europe, but to the inevitable friction that must follow European expansion in Asia and Africa, every citizen should spend some time in getting a clear conception of the art of war. Machiavelli laid it down in his great masterpiece that a prince is not fit to

rule who does not know war. As our people now-a-days govern themselves, they need this knowledge for themselves. As Goltz declares, "They ought to know how to forge weapons, to strengthen their arms in order to carry them, and to steel their hearts so as to endure the hardships which a struggle for the Fatherland entails." Clausewitz says, "The waging of a war is in itself very difficult, of that there can be no doubt; but the difficulty does not lie alone in the fact that special erudition or great genius is demanded in order to perceive the true principle for conducting war; of this every well-organised head, who is without prejudice, and who is not utterly ignorant of the matter, is capable. Even the application of these principles upon the map and paper entails no difficulty, and to have sketched out a good *plan of operations* is no great master-piece; the whole difficulty consists in faithfully carrying out the principles one has proposed to oneself."

But apart from their necessary connection with all political and military enterprises on a large scale, narratives of campaigns must ever attract the attention of the intelligent and the curious. Dr Arnold points out that in all ages and among all peoples descriptions of the operations of warriors are most popular, and this not because of any inhuman delight in details of carnage and destruction, but because in battles the highest faculties of the race are exerted in their most intense energy. The struggles of embattled men are perennially interesting to all men, and the history of mankind is the history of armies.

CHAPTER II.

THE LEADING PRINCIPLES OF STRATEGY AND MILITARY GEOGRAPHY.

READERS of Austin's *Jurisprudence* will remember how severe a task he set himself when he attempted to define such simple phrases as "Law in general" and "Municipal Law in particular," and, after all, his definitions leave on the mind a sense of vagueness. To define "Strategy" and to distinguish between Strategy and Tactics are almost as difficult undertakings. The general plan of a campaign is strategy, the details of a battle are tactics. No doubt in some cases the distinction is clear. Marshal Marmont's manœuvres up to the battle of Salamanca can be discriminated exactly from those in the battle itself, but it is hard to separate the action of the three German armies during August 6th, the date of the battles of Spicheren and Woerth, and to say how far the action of the Bavarians on the one side, and the third corps on the other belong to the domain of strategy and how far to tactics. When the Prussians arranged their invasion of Bohemia in 1866, they designed and executed a fine strategic plan, which was in practical operation days before the battle of Sadowa. In fact,

when their left army reached Josephstadt, and their right armies drove Clam Gallas from the Iser, Benedek was already beaten from a strategic point of view. He stood to fight on the Bistritz, but he was beaten not by any merely tactical operations, but principally because at a critical moment of the battle the Crown Prince, continuing his original line of march, came into a strategical position on his right flank, and he was thus obliged to retreat or be cut off from the Elbe. He was quite able as far as tactics were concerned to stop the enemy coming against his front from the west, in spite of their breechloaders.

There are certain conditions appertaining to the movements of armies, a proper appreciation of which may lead to a satisfactory definition or description of strategy. Soldiers, like all other men, require a certain minimum of food, sleep, shelter from the weather, and clothing. It is true that at times, and for short periods, generals may call upon their men for rare self-denial; rations may be scarce, and bivouacs take the place of encampments or cantonments, but these periods of deprivation must be slight, or a patient and well-disciplined army will perish and a less orderly army will mutiny. The waggons carrying the supplies must be constantly replenished from the base, or from dépôts provided in the theatre of operations. Moreover, many men get ill even during a short campaign: the proportion of sick in King Joseph's army in Spain in 1812 was 51,345 out of a total of 291,379 men all told. Wellington was most particular about the health of his troops, and did his best to provide medical comforts, and his men were recruited from hardy races and agricultural populations,

yet he counted 16,984 sick out of about 72,000 on his rolls in 1812. To take the place of men thus invalided and of the dead, a constant stream of recruits flows from the rear to the front after every skirmish or battle. It is also now-a-days usual to send all convalescents home at once by rail. Moreover ammunition is quickly exhausted, and the work of replenishing the magazines causes a circulation of waggons backwards and forwards. The further the army marches the greater become the difficulties; "it drags at each remove a lengthening chain." In some of the semi-barren districts of Europe the difficulties of subsisting an army become terrible. When the Russians reached the environs of Constantinople in 1876, of their enormous hosts not 50,000 could stand to arms. By the end of the first week after he crossed the Niemen, Napoleon had lost 10,000 horses, and this before he had had any serious fighting with the Russians. If troops accustomed to live in cottages sleep during bad weather in the open air they become diseased with astounding rapidity. So dangerous is this that von Werder's troops, during the exciting fights on the Lisaine in January, 1871, were marched some miles daily from the battles so that they might sleep under roofs. When a German division reinforcing Napoleon at Wilna, in 1812, bivouacked one night in the open, the snow covered 6000 corpses before the dawn. Perchance the manœuvres in Wiltshire in 1898 may have given some readers an idea of the difficulties of supplying armies. The troops of the Duke of Connaught and Sir Redvers Buller numbered each about a Napoleonic or German army corps. Therefore only two corps operated, and

they moved from separate bases, north and south, and had an elaborate railway system available on both sides. The ablest caterers in England, with ample credit and exhaustless means, were employed, and yet these small armies had often to wait for their meals, and thirst harassed men and horses from start to finish. Another lesson was supplied by the state of the roads, crowded in all directions by teams and waggons of every description. Fortunately the distances to be traversed from day to day were only a few miles; had the distances been long, the nocturnal camps of famished men would have been scenes of wild riot, and the peaceful citizens of the south of England, which has been free from invading footsteps for years, would have seen their own defenders illustrating some of the horrors of war.

An army of invasion is followed by immense trains. Edward III's army in France had 6000 waggons, stretching two leagues. The combatant part of an English army corps going by rail would require 104 trains of about 30 carriages each; the luggage would require 61 trains more. If an army corps of 30,000 men and 10,000 horses rests for a day or two preparatory to a battle or during a siege, it eats up all provisions procurable in a piece of rich country nine miles long by five miles wide.

But even supposing that food and drink are plentiful and sleeping-places not too far away from the lines of march other serious questions arise. A British division on the march along an ordinary main road without an advanced guard would be five miles in length. Napoleon invaded Belgium (1815) with a small army, as continental armies are now counted, viz. 125,000 men,

yet his force would have stretched 49 miles on a single road. If the modern German army were put in motion on one road, when the head of the column was marching into Mayence the last company would be at Eydtkuhnen, on the Russian frontier. The whole military road from the Rhine to the Russian frontier would be thickly crowded with soldiers, guns, and transports. If these were to pass out through a single gateway, day and night, it would take a fortnight for all to pass through. If tents were also carried, as was the case in Wiltshire, the length of the column would be considerably increased. Wellington reported to his Government after the battle of Vitoria that he had taken 151 guns and 415 ammunition waggons. The rewards were generous, but few members of Parliament at the time had a clear conception of the enormous bulk of this booty; it would crowd the whole road from Westminster to Woolwich.

Admirable arrangements are made by the Germans for quenching thirst while on the march, for in a long march and in hot weather this is often most trying, but if beverages were also carried to a considerable extent the length of the column would be proportionately increased.

The question of quarters now arises. The Austrian army of 1866 required almost the whole of Moravia for quarters. If modern armies were in line of battle and not in column of march the result would be equally startling. The French army would reach from Épinal to Verdun, a distance of 80 miles, even though the individual regiments were ranged together closely.

From these considerations it is manifest that the

various corps of an army must move not by one, but by many roads to a common object. In some countries these roads may be near to one another, in others they are more distant. In some countries they are separated from each other by rivers, only passable at a few fords or bridges; or worse, by ranges of hills only to be traversed by a few passes.

Any considerations of strategy that apply to ordinary roads apply to railroads with greater force; they facilitate supply and movement tenfold. The German army at Paris, for instance, was supplied for a considerable period (September to December) by one line, which enabled sixteen trains a day to be brought close up to the lines of investment. A railway may be very easily rendered useless by the destruction of a tunnel or of a long viaduct, and therefore requires more care than a road, as its repair would in either case be very tedious and costly. It is well worth the while of an enemy to make a raid against points like these, and the defensive commander could not do better than to organise operations against the line used by an invader. Nothing could more embarrass his opponents; indeed a good scheme for checking a hostile advance against a capital would be the establishment of a place of arms and assemblment on a line perpendicular to the main railroad from the frontier to the capital, and not very far away; a few days' distance would suffice.

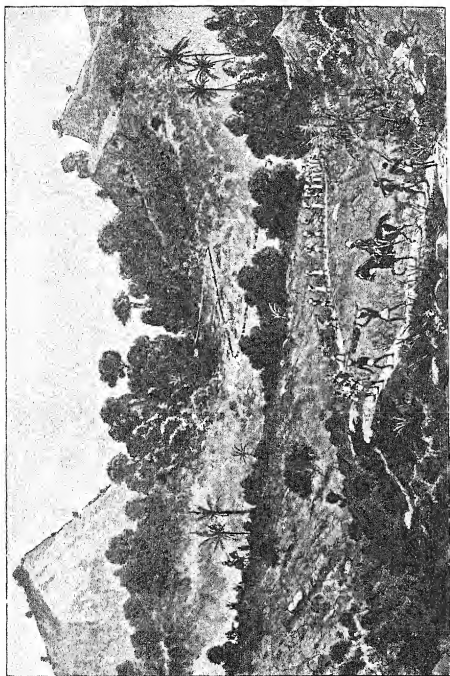
As an example of the relative efficiency of the various means of transport the following facts may be instanced:—

One train of 25 to 30 carriages will convey 300 tons of supplies 200 miles in a day. One hundred and fifty

large civilian waggons will take the same load 12 to 14 miles in a day. A barge 20 feet long, 6 feet wide, and 4 feet deep will convey a load of nearly 10 tons, so it would require 30 to take the 300 tons of supplies. But it is not necessary to discuss further the superiority of railways over other avenues of supply from the point of view of efficiency and rapidity.

A large army, then, requires many and good roads; a bad road, especially after severe weather, becomes almost impassable if once a division has marched over it. There are many cases recorded in which armies could not move at all because of the inferior quality of the roads, and other cases in which a few heavy showers have thwarted the schemes of strategists. A heavy fall of snow will stop an army. Once the main road from the front of the army to its base, or from the depôts of an army to its sources of supply is blocked a catastrophe is imminent; anxiety pervades all ranks, the pressure of hunger is soon felt, and fear turns into panic and disgrace. Such was the terror which overcame the French when Graham seized their road to Bayonne during the battle of Vitoria; and the panic which overcame the Russians and caused the disgraceful rush to the bridge of Simnitsa on July 31st, 1877. In our native wars our troops have often to construct roads as they advance, or, as is especially the case in West Africa, to proceed in single file by jungle paths.

Once the reader clearly understands that soldiering and fighting are far from synonymous—that in a campaign combats are occasional while marching is constant—that before entering into a battle a general must be most careful to secure his line or lines of retreat; he



NIGER COMPANY'S TROOPS MARCHING TO KABEA.

understands the leading principles of strategy, whether he can define the phrase to his satisfaction or not. He sees that a general whose road homeward or to his base is threatened or cut by a superior force must, if he loses a decisive battle, be ruined as well as defeated; while a general who has secured his line of communication will not be ruined even if defeated, but can fall back, procure recruits, replenish his waggons, and begin to fight again with a fair prospect of success.

In order to render success certain, we ought to choose a line of operations which will enable us to keep our troops together as much as possible. In order to enhance our success, we ought to select a line of operations which will bring us as close as possible to the enemy's line of retreat. But how close, or how far away, is a delicate point best decided on the spot. Hood went too far away in 1864, when he marched to the Tennessee, for he enabled Sherman to do as he pleased in Georgia.

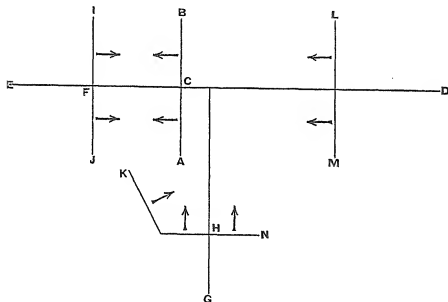
In order to protect ourselves against the consequences of a possible defeat, or, at least, to diminish its gravity, we ought to select such a line of operations as will be as near as possible to our own line of retreat. Radetsky had a better chance in 1849 than the Sardinian army, Marmont a better one than Wellington in 1812.

The relative efficacy and safety of these methods of attack may be illustrated by the following figure:—

1. Let us suppose that the enemy is at AB fronting towards F , and with the line of retreat CD . If we are at LM on the line of operations DC , which is also the enemy's line of retreat, our success will be greatest, but it is less certain, because of the difficulty of concentrating

our forces, and in case of reverse the consequences will be much more serious.

2. If we are placed at *IJ* on the line of operations *EF*, which is our line of retreat, the operation gives the best opportunity of concentrating our forces, and the greatest security in the case of a defeat, but the least chance of a very considerable success.



3. Let us place ourselves at *KN* on the line of operations *GH* which serves as our line of retreat. This operation gives almost as good an opportunity of concentrating our forces, and consequently almost as much certainty of success, as in the former case; it affords equal security in case of defeat, and it presents many more chances of obtaining a decisive victory.

It is not enough to have compelled the enemy to retreat in a disadvantageous direction, it is also necessary

by our pursuit to keep him in that direction as long as possible; but it is not always that an eccentric retreat is disadvantageous; a retreat that after reorganization threatens the enemy's flank is better than a retreat to the original base. Suppose for example that the French after Woerth had retreated to Langres.

Whatever the plans and preparations for any military enterprise, the result depends on a decisive battle; our own success, or at least the diminution of the enemy's success in a campaign, are determined by the battle. All Marmont's elaborate plans were spoiled by Wellington's success at the action of Salamanca. Had the Germans been beaten at Gravelotte their position would have been very hazardous.

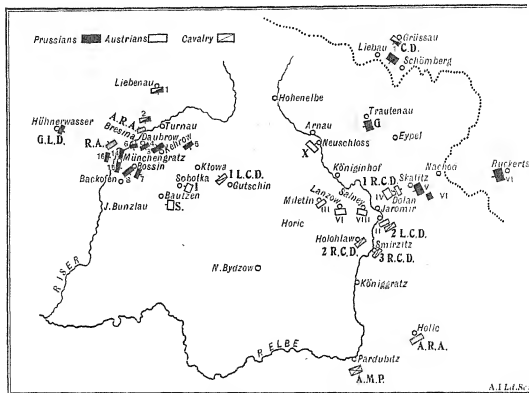
The plan of every enterprise ought to be settled in advance. This is an indispensable condition for arriving at a determined end, but besides the end to be attained the plan should have regard to the nature of the means and to existing circumstances. But there must not be any rigidity in the plan, and the staff must be ever ready for modification and variation during the development of the campaign. Napoleon made three mistakes in his plans in 1806, but the result was not seriously affected thereby. Rustow follows up these ideas very fully in his *Stratégie*, but enough has been said for our purposes.

Before defining accurately strategy and the leading ideas in the mind of a strategist, it is well to direct attention to the fact that inasmuch as an army advances along several roads its various portions may be obliged to move at some distance from each other, and if they cannot keep touch on the left and right flanks respec-

tively they may become so separated for a few days as to be practically two distinct armies, while if they have started from different bases they will develop eccentric or divergent lines of communication. In this case all the advantages of their superior numbers may be lost if the least hitch in arrangement should occur, and they may be beaten in detail. For example, if three armies, each of 100,000 men, were converging towards a given point from three places, each forty miles apart from the other, if they did not keep touch for, say, any two days during a ten days' march towards their object, they might all three be broken to pieces, driven away from each other, and excluded from the arena of operations by an army, each portion of which was linked to the other, and yet only 200,000 in all. This is obvious, but worse still, two of them might be stopped at defiles or strong positions, while the third was being destroyed only twenty miles away. By superior skill, therefore, and taking advantage of that separation of the masses of the foe which is sometimes unavoidable for topographical reasons and sometimes accidental, an army of relatively very inferior numbers may ruin much more numerous bodies of adversaries.

The length of the line of an invader's communication, and the fact that in due time his army may break up into sections, especially if the invaded country be large, affords chances of victory to resolute patriots who will not yield an inch of territory, and who are endued with courage never to submit or yield, or "what is more, not to be overcome." It was by acting on these calculations, the accuracy of which admits of mathematical demonstration, that the Archduke Charles, after a

retreat of 200 miles, delivered South Germany from Jourdan and Moreau in 1796; and that Jackson and Lee perplexed, harassed, and defeated all the generals of the North for two consecutive years in the valley of

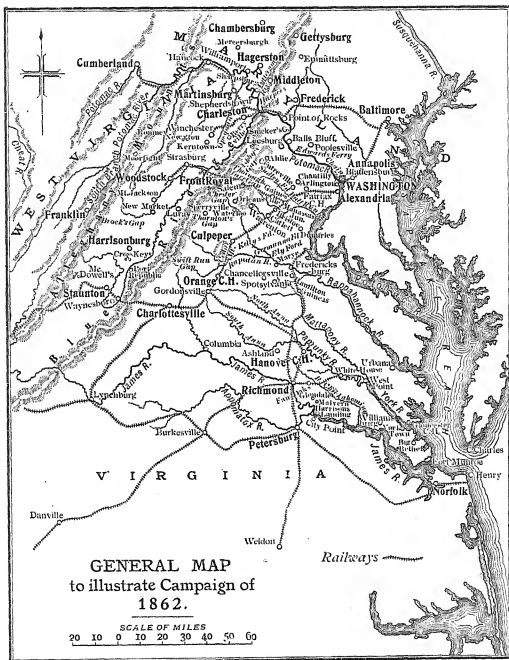


Map to illustrate Armies marching from Divergent Bases on a common centre and the disposition of Detaining Forces. Prussians at Trautenau and Nachod detained by Austrian Tenth and Sixth Corps. Prussians marching to the Iser turn the Austrian detaining force of the 1st Corps and Saxons, June 28th, 1866.

Hühnerwasser to Trautenau, 40 miles; Trautenau to Pardubitz, 40 miles.

the Shenandoah and along the woods and rivers of Eastern Virginia.

The Confederate Jackson was at Staunton May 6th, 1862, he fought the Federals Milroy and Schenck near



GENERAL MAP TO ILLUSTRATE THE CAMPAIGN IN VIRGINIA IN 1862.

McDowell's on May 8th and drove them over the hills; fought Banks at Front Royal, Newtown (near Kerntown), and Winchester May 23rd to 25th, and drove him over the Potomac. He defeated Fremont at Cross Keys June 8th, and Tyler at Port Republic June 9th, and then acting on interior lines went to Richmond, and joining Lee, drove the Federal McClellan from the Chickahominy to the James river, June 26th to July 2nd. In each case he left a detaining force between the portions of the beaten armies.

Bearing in mind the data upon which each is based, the reader may accept Hamley's definitions that "the theatre of war is the province of Strategy, the field of battle is the province of Tactics. The object of Strategy is so to direct the movements of an army that, when decisive collisions occur, it shall encounter the enemy with increased relative advantage." We may adopt the view of Bulow that when the first shot is fired the duties of a strategist are suspended until the close of the fight, when they are resumed. Of course the best laid schemes of a strategist are wasted if he loses a battle, and indeed, if the adversary be so very strong that he can win every battle he can afford to view with some indifference all efforts to cut his line or break up his army into disconnected fragments; but even then he cannot afford to have his road (or his railway) for supply blocked or destroyed; the resulting injury, material and moral, would be too severe. Accordingly, in 1870—71, the Germans left the *etappen* (or line of communication troops) along the railway from the Rhine to Paris, and when any serious movement of Gambetta's levies against that line was threatened they modified their whole

arrangements forthwith, although invariably successful in battle against any superiority of numbers. The vast army of Russia in 1877 did not dare to cross the Balkans so long as Osman Pasha's small force of 40,000 men at Plevna threatened the road from Sistova to Kezanlik. When Napoleon was advancing to Vienna in 1809, although he had won the battles of Landshut and Eckmuhl and there was no army ready to stop his way, he was obliged to weaken his battle-force by large detachments at Passau and Linz, and in consequence his army was not sufficiently strong when he came to the island of Lobau. Next to coping with the British armies in the field, the most difficult task of the French marshals in Spain (1808—1813) was the securing of their roads to France on the west and east. Any French divisional commander could smash up a Spanish force in a battle; the Spanish generals were absolutely ignorant of the art of war and too perverse to learn it, or to take advice as to tactical details, but they knew how to seize convoys, to close defiles, to break down bridges, to tear up roads, to hover on the flanks of an army, and to massacre small parties. And thus it was that men like Mina, Longa, and Julian Palarea, better known as the *Medico*, rendered it necessary for the French to employ some 100,000 men between Madrid and San Sebastian, and Valencia and Gerona.

Some wars are decided at once by great victories. Sadowa practically disposed of the issues in 1866, and Marengo of the Austrians in the north-west of Italy in 1800, while Austria yielded after Austerlitz in 1805, but frequently the defeated troops avoid tactics and resort to strategy. France, in spite of perpetual tactical defeat,

and with no regular army, kept the Germans busy from September 2nd, 1870, till February 2nd, 1871—in this case altogether because of a resolute use of population and territory from the strategic point of view. There were no tactics, good or bad, the actions were mere “hard pounding” by the Germans of raw recruits, whose officers did not know ordinary drill, not to speak of tactics.

To sum up the matter:—

The object of a strategist in drawing up his plan is so to arrange his marches and his lines of operations that, on the one hand, if he wins the battle he will not only defeat the enemy on the field but place him in a situation of much perplexity as to his future action, his line of retreat, and his supplies; and, on the other hand, if the battle be lost, he will have secured for himself a safe line of retreat, and an opportunity of recuperating his strength. Better still would it be if he could be so certain of winning the battle that he could venture before the engagement to place himself astride the line of supply of the enemy, who in this case, if beaten, must capitulate. This, however, is more risky, as the situation is reciprocal, and therefore it is generally wiser to compel the enemy to form front to flank—that is to say, to fight with a flank to the base—than to interpose between him and his base. As a general rule it would be found that if *A* manœuvred so successfully as to interpose between *B* and his base, *ipso facto* *B* would interpose between *A* and his base. When Napoleon in 1800 marched round the right of the Austrians and compelled them to fight with their face to their base, they in turn interposed between him and Mont Cenis and the St Bernard. Had

he lost the battle his position would have been one of great danger. When Jackson threatened Banks in 1862 near Strasburg in the valley of the Shenandoah he imperilled the communication of the Federals, but had they stood their ground and beaten him and thrown their right forward he would have been isolated.

It will generally be found in all cases in which the geographical, strategic, and numerical conditions are equal, that success, as in other walks of life, depends on a daring initiative. He who starts first with audacity, and pursues his plan with celerity, secrecy, and resolution, reduces his opponent to the defensive and to irresolution, and shifty expedients have to take the place of manœuvres. The value of time in war is apparent. Opportunity turns the locks on her forehead to the prompt, not to the dilatory. In 1806, when the Prussians were meditating and discussing, Napoleon was marching. While the Federal chiefs on the Chickahominy were wrangling with their War Office, Lee was crossing the river and turning their flanks.

Some generals prefer to divide the operation of interposing between the enemy and his base into two distinct operations, first to threaten his communications, compel him to fight at a disadvantage, and having won a fight, to advance further against his inner flank—that is the flank by which he is linked to his base—and interpose between him and his base; and then, after another victory, either to compel him to surrender or shut him up in a fortress. In the operations round Metz between the 14th and 19th August, 1870, Bazaine's passage of the Moselle was delayed by the fight of Borny on the 14th; both he and the Germans were

across the river on the 15th; on the 16th he was assaulted on the road between Metz and Mars-la-Tour, and while wishing to march west was compelled to look south. Being beaten on the 16th he was obliged to throw back his right, and the Germans interposed between him and his object; on the 18th he was again defeated at Gravelotte and driven inside the forts of Metz.

Marlborough's plan for 1704 was splendidly audacious, especially as the rival troops were nearly equal both in numbers and in fighting capacity. He dared to cast himself away from both his sea and land base, and, traversing the Rhine and the Suabian Alps, to cross the Danube, in spite of the resistance of the Bavarian prince at Donauwörth. Having ravaged Bavaria he recrossed the river, and found himself face to face with Tallard and the Bavarians at Blenheim on the Nebel, east of Dillengen. He thus interposed between the French and their object, Vienna, but on the other hand he faced his base, from which, by a projection of the enemy's left, he would have been completely severed; but, his tactics being as skilled as his strategy was daring, he gained one of the fifteen decisive battles of the world, and, having taken his adversary prisoner, was able to march back by the Rhine, the Moselle, and Belgium practically unopposed. Here was a strategic interposition, designed months before the battle and carried out cautiously and secretly, which changed the fate of Europe—yet all would have been in vain if Tallard and Marsin had possessed the military genius of Marlborough and Eugène. The glories of the age of Louis XIV. were shattered at a blow. Great Britain became a

leading military as well as naval power. Her alliance and the aid of her army were courted by every European potentate from that day till the fall of Napoleon. Such is the power of military genius. It was immediately recognised all over Europe that, in war, brains are better and more valuable than the most heroic courage, though with this quality also the victor of Blenheim was liberally endowed. The force of intellect amid the clash of arms had not hitherto been noted in the current literature of any nation, but the sage poet Addison was quick to perceive it, and the *Campaign* does justice to military art as well as soldierly valour¹.

It is no wonder that the Marquis de Feuquières considered the proper selection of a commander one of the most important and critical responsibilities of a Sovereign or a State. Upon this he writes a chapter—"Of the Care Princes ought to take in Forming Generals for their Service, and how necessary it is for them to gain by their own Experience a competent Knowledge of the persons they design for Command, and to reward them in Proportion to their Services." The value of a sound strategic plan vigorously executed is incalculable: no reward is too great for a successful general; the only fault for which he cannot be forgiven is failure.

¹ "'Twas then great Marlborough's mighty soul was proved,
That, in the shock of charging hosts unmoved,
Amidst confusion, horror and despair,
Examined all the doubtful scenes of war,
In peaceful thought the field of death surveyed,
To fainting squadrons sent his timely aid,
Inspired repulsed battalions to engage,
And taught the doubtful battle how to rage."

ADDISON, *The Campaign*.

Napoleon, it should be noted, flattered Marlborough by imitating him in the same theatre, directing his march from the Rhine and the Main to Donauwörth, and then turning westward north and south of the river Danube, and taking prisoner the Austrian General, Mack, at Ulm, 1805.

But let us suppose that the manner in which the hostile army is distributed closes all the avenues by which a surprise round a flank or a stroke at the communication could be effected, even then the resources of strategy are not yet exhausted. As the enemy's forces must operate over several lines of advance we can boldly set out to meet him and, before he can gather his scattered fragments together, concentrate against his left and drive it away from the right; then, leaving a detachment to observe the left, turn on the right, and having inflicted on it a decisive defeat, leave another detachment to watch it. Then with the main body we can turn and join the first detachment, and utterly destroy, or drive to a disorderly retreat, the left. The detached body is called "a detaining force," and when the object of the strategist is to break a front with safety to himself, there can be no doubt, to use Hamley's words, that the "skilful use of a detaining force is the principal weapon in the military armoury."

What is a detaining force? A rearguard is a detaining force—that is, its object is to delay the progress or pursuit of the enemy so that the main body which it covers may gain connection with its base, or take a new position, or get home across the frontier; in short, elude the enemy. A good rearguard commander like Davoust, Foy, or Baker is admirable. An advanced guard may be

a detaining force if it seizes hold of and keeps occupied the enemy till the main body comes up and engages him seriously.

But to detain (*contenir*) in strategy implies quite a different class of operations. Let us assume that the army of *A* is divided into two sections, and that *B* can defeat either of these alone but would be repulsed by both together. How are they to be kept apart? Manifestly if *B* divided his army into two equal parts his position will not be improved. But suppose he divided it into three parts—two wings occupying a forward position and a central mass upon which either wing can fall back—he may by his left wing keep one half of his opponent's force away from the other for a day or two, during which he can with his right and centre defeat the latter. A weaker force cannot hope to defeat permanently a stronger force, but by the skilful use of natural obstacles, and by deceptive reports and feints, the stronger can be delayed for some time. It is possible for 10,000 men thus to worry (*amuser*, as French strategists put it) 40,000 without any considerable loss for a week. Of course, if the 10,000 could rout the 40,000 so much the better, but this is not its primary duty, and especially it is not its duty to risk defeat; it should be content to manœuvre and to delay. A force employed therefore, not to defeat another force, but to keep the latter so occupied for a short period that it is too busy attending to its own affairs to give any assistance to its comrades in some other part of the theatre of war, say 12 or 50 miles away, is a "detaining force." The left wing may be the detaining force to-day and join the main body to-morrow, the right wing may then play a

similar part. But no process except the skilful use of a detaining force could enable an inferior force to escape the disaster that a superior force, if all its parts could be brought together at the same time, could inflict.

Forces operating from divergent bases against their foe, if neither of them be obstructed during their advance, must crush an inferior force if they can assail it in front and flank before the afternoon of the same day. But if either of them be effectively obstructed by a detaining force and prevented joining the other for one day, both may be driven away from each other, and all the labours of a costly and toilsome campaign may be rendered nugatory within sight of victory. That force of which the components act from a common centre outwards, keeping in touch as regards all its parts, every detaining part being able at all times to fall back on the centre, is said *to act on interior lines*. The forces whose parts move from the circumference along the radii of a circle towards the centre in such fashion that if any part be beaten it is driven not towards but away from the other part, is said *to act on exterior lines*. These phrases, though technical, are of such frequent use in all military treatises, especially French and American works, that in spite of the protests of Hamley and others, and the long-drawn substitutes of German writers, it will be found convenient to adopt them. In the campaign of 1812 in the Peninsula, the Allies along the Portuguese frontier were acting on interior lines, Hill being the detaining force. In 1814, Napoleon, though tottering to his fall, furnished all writers on the military art with the most brilliant example of the repeated use of detaining forces on either flank, and the co-operation of the central

force at the decisive moment. His operations and those of his Marshals were altogether magnificent. Imitating Napoleon, the Confederates practised exactly the same use of detaining forces, with most satisfactory results, in 1862. A very bad example of what might have been interior lines was Napoleon's operation June 17th, 1815. It would be hard to recall a more instructive instance of the effects of a detaining force than the fashion in which Marshal Davoust wrecked the Archduke Charles' well-conceived campaign between the Iser, the Abens, and the Danube in 1809.

A reader who apprehends the importance of a threat against the enemy's lines of communication, whether by road or river or railway, or by sea; and who understands the vital importance to the defensive, if inferior in strength, of even a temporary segregation of the offensive forces, has sufficiently grasped the Principles of Strategy for the purpose of this treatise.

There may of course, though the public would attach little glory to the operation, be most brilliant strategical successes without any battle. The strategical combination may be such that the enemy may be obliged to evacuate territory, or, if he remains, be exposed to the risk of capture.

When Graham and Wellington combined north of the Douro in 1813 the French felt bound to abandon Madrid and the Douro without a skirmish, and when our generals changed their base to the Biscayan shore the French also were constrained to abandon Burgos and the line of the Ebro. In the previous year, when the British entered Madrid, Soult, who was two hundred miles away, found it necessary to abandon Andalusia and the vast

accumulation of stores connected with the siege of Cadiz, and to retire to Valencia.

When the strategical plan of operations is settled, the next stage of the proceedings comes within the province of various departments of the General or Head-quarters Staff, all members of which should recognise that they are parts of a common whole, and allow no departmental or class prejudices to arrest for a moment the march to victory. The State must supply each department with ample means; the word economy must be wiped out of the political and military dictionary when once war begins. An attempt to save a thousand pounds to-day may easily result in the expenditure of a million a year hence. Nor does a statesman or a soldier gain any credit for parsimony. If any department fails, as did the medical department of the Americans during and after the late Cuban war, all concerned are overwhelmed with obloquy. Everything, blunders and extravagance included, are forgiven and forgotten forthwith if the soldiers are well treated, and come back victorious and content. The logistic details give far more trouble and anxiety than does the strategic plan, though if this be wrong every effort of the departments will be in vain.

Before placing the army in movement the following are some of the principal points to which attention should be directed. Suitable localities should be selected for magazines, depôts, and hospitals. Plans of the lines of march of each division or corps should be elaborately designed and carefully distributed, so that no clashing or crossing of corps or entanglement of columns should be possible. Sites for camps must be chosen, and villages

and towns for cantonments, while the accommodation available therein, and the supply of waggons, draught-horses, and food that each district can afford must be ascertained clearly, or terrible distress to the inhabitants as well as the army will arise. If the inhabitants are not permitted to remain in a state of sufficient comfort, or are half-starved through wholesale requisitions, they will get diseases which will spread among the soldiers. If the soldiers have to sleep in damp quarters or on wet ground, and are under-fed, they will get dysentery. A small saving in food per day may cost thousands of lives. Then if forethought is not devoted to replenishing the supply of ammunition in lavish quantities, battles may be lost. The Turks at Plevna had such an abundance of cartridges that they could fire freely in every direction, and cover with lead all the approaches of the Russians to their fort, and shower bullets over field and wood.

The following details illustrate the enormous requirements of armies in the field. During the bombardment of Algiers 10 British ships fired 39,000 rounds. In all, 500 tons weight of round shot were used, and 966 ten and thirteen-inch shells were fired by the gunboats.

At Plevna 200,000 rounds of shell were fired by the Russians, and 80,000 by the Turks; the Russian infantry used 10,000,000 cartridges, and the Turkish 15,000,000.

The siege of Strasburg, 1870, lasted 50 days, and the regular attack 31 days, during which time the besiegers fired 193,722 shot and shell on the works and into the town. At Omdurman one British battery is said to have fired 1,000 rounds. A British regiment going into

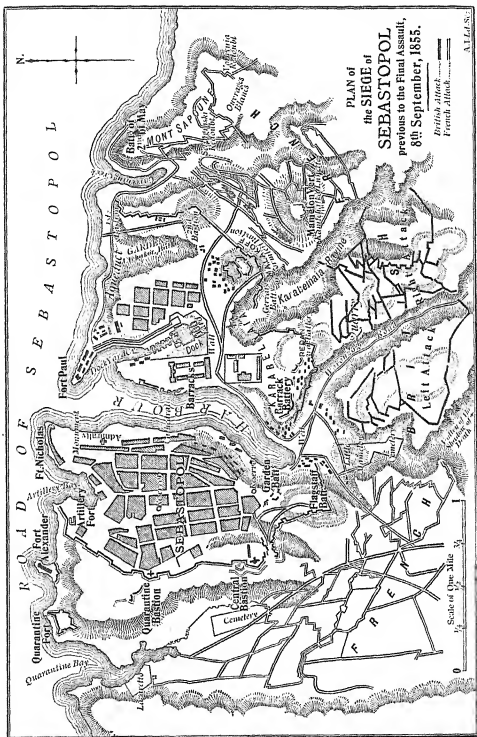
action is provided with 309 cartridges per man, 100 carried on his person, the rest close at hand, or in the ammunition park.

The Artillery material at the disposal of the French army of the East during the Crimean War comprised 1,007 guns, 2,000 gun-carriages, 2,700 waggons, 2,000,000 of projectiles, and 9,000,000 rounds of powder. There were sent to the army 3,000 tons of powder, 70,000,000 infantry cartridges, 270,000 rounds of fixed ammunition, and 8,000 war-rockets.

On the day of the final assault there were 118 batteries, which during the siege had consumed 7,000,000 pounds of powder. They required 1,000,000 sandbags and 50,000 gabions. Of engineer materials 14,000 tons were sent, and the engineers constructed 50 miles of trenches. Of subsistence, fuel, and forage 500,000 tons were sent; of clothing, camp equipage, and harness, 12,000 tons; of hospital stores 6,500 tons; of provision-waggons, ambulances, carts, forges, etc., 8,000 tons: the whole making a total of some 600,000 tons.

It is not necessary to add similar facts for the English, Sardinian, and Turkish armies. Lord Wolseley says:—"The medical history of the Crimean War is a shameful story, and tells of how an army may be destroyed by a ministry through want of ordinary forethought and ignorance of military science: the general can learn from its pages the important lesson that the greater attention he pays to the health of his men, the stronger will be his battalions on the day of battle."

When almost too late the nation awoke to a sense of its responsibility, and the soldiers were at last carefully tended, largely through private charity. Then, of course,



no regard was paid to expense, and every man in the Allied army cost £200 a year. But reasonable attention to the wants of the troops in time would have been more useful than all this prodigality, which was too late to bring back to life 15,000 victims of official neglect.

The enormous requirements of the German army in France during 1870—71 may be conceived when we remember that in the course of twenty-four hours each *corps d'armée* consumed 18,000 loaves of three pounds each, 120 cwt. of rice or pearl barley, either seventy oxen and 20 cwt. of bacon, or a proportionate amount of prepared sausages, 18 cwt. of salt, 30 cwt. of coffee, 35,000 quarterns of spirits, and 3,500 ounces of orange essence or some other bitter tincture to mix with the spirits. To this gigantic repast must be added 60 cwt. of tobacco, 1,100,000 ordinary cigars, and 50,000 officers' cigars for each ten days. Finally the forage for the horses, at a minimum of 20 lbs. for each horse, must also be reckoned.

Multiply these figures by $17\frac{1}{2}$ and we have the sum total of the consumption in one day (excepting as regards tobacco) of the German troops in France. The difficulties of bringing up such gigantic quantities of stores were often aggravated by the usual disasters incidental to warfare. Several times during the campaign, owing to the severe winter, each corps had distributed among them woollen shirts, flannel bandages, comforters, plaids, stockings, boots, etc. The field-post needed a considerable amount of rolling stock. From the 16th January to the 31st December, 1871, no fewer than 67,600,000 letters, and 1,536,000 newspapers, in other words, about 400,000 letters and 99,090 papers

per day were despatched from and to the army. In the same period 41,000,000 thalers, and 58,000 parcels of all sizes and weights, were sent by the office to the German military authorities in France. The soldiers received or sent to their friends and relatives at home 13,000,000 thalers and 1,219,533 parcels, or 322,173 of the latter per day. A large number of sick and wounded were constantly being conveyed back to Germany, besides prisoners, the number of whom was unprecedentedly large. Add to all this that towards the close of 1870 from 180,000 to 200,000 new troops were brought up to the seat of war, and that the transport of guns, shell, and every variety of ammunition never ceased for one day until peace was declared, and we can then form some idea of the extreme importance to Germany of having secured command of the various roads and railways.

A noteworthy lesson in logistics was the arrangement of Napoleon's forces during their march from Boulogne to the Danube in 1805, and the orders of Wellington in 1813 were so well conceived that his own divisions and those of Hill and Graham converged on the Zadora in front and to the north of Vitoria at the same hour, to the ruin of King Joseph. Nor did he neglect any of the other precautions which have been detailed. He insisted on an ample supply of food, pointing out to the Spanish General O'Donnell that victory was impossible without discipline, and that no troops could be expected to observe discipline who were not regularly paid and fed, and, indeed, he allowed General Hill to use British rations for the support of the Portuguese who were neglected by their own officials.

Such is the complicated machinery for which a General is responsible.

Admirable reports on the state of affairs in the Crimea and on the disorganisation of Gambetta's levées were doubtless to be found pigeon-holed in the United States War Office, and yet, when war broke out with Spain in 1898, nothing was organised except confusion. The arrangements for embarkation at Tampa and disembarkation at Cuba were inefficient to the last degree. The lack of accommodation for the men was not only disgraceful but most injurious to health. Had the enemy been more alert the results would have been disastrous. Lord Roberts says in regard to his Afghan expedition, "Our greatest difficulties on all occasions arose from the want of a properly organised Transport Department, and they will understand that I was able to make this very apparent when the necessity for mobilising rapidly only one Army Corps came to be seriously considered. We were able to demonstrate conclusively the impossibility of putting a force into the field, sufficiently strong to cope with a European enemy, without a considerable increase to the existing number of transport animals, and without some description of light cart strong enough to stand the rough work of a campaign in a country without roads; for it is no exaggeration to say that in the autumn of 1880, when I left Kandahar, it would have been possible to have picked out the road thence to Quetta, and onward to Sibi, a distance of 250 miles, with no other guide than that of the line of dead animals and broken-down carts left behind by the several columns and convoys that had marched into Afghanistan by that route."

As strategy deals with plans of action before the actual collision of armed forces, it is manifestly not affected by changes in weapons or equipments. It is modified, however, by changes in means of communication. The use of steam and the electric telegraph, inasmuch as they facilitate the transport of men and material, and of intelligence and orders, has undoubtedly injuriously affected strategy so far as it depends upon secrecy and surprise. On the other hand, when once the operations have commenced, it has provided generals with powerful agencies for the rapid accomplishment of their aims.

There is much discussion as to the relative merits of an Offensive and a Defensive policy, but there can be no doubt that, if a State be ready and powerful enough, the advantages of the offensive are enormous, and that expeditions should be launched against the enemy when the tension has reached fighting point, whether war be formally declared or not. Suwarrow's motto, *Stupai sbe*—"Forward and strike"—might be adopted by every military leader.

If a nation is not ready it should not involve itself in political predicaments that may tend to war; it ought to wait, yield somewhat, prepare for a war in peace, and gird its loins for a future struggle. If both sides are quite unready the spectacle is undignified, and much needless torture is inflicted on the soldiers engaged; this was the case in the war between the United States and Spain in 1898, and the feelings and pride of the combatant and non-combatant classes on both sides were unduly strained.

In a naval war the State whose fleets are more

powerful and efficient should forthwith assume the most vigorous initiative: there are no dangerous defiles on the main seas, and they should annihilate or drive to port the weaker fleets at once. By land also the offensive is justified by every motive, while the nation and army that are on the defensive are depressed when they see their frontier crossed, and strangers forcing themselves into their villages and seizing the fruits of their labours. Very frequently in these cases public opinion and the exigencies of Government compel the staff to adopt measures which, from a military point of view, are injudicious. The French Marshals feared to abandon the Vosges and retire behind the Moselle at the beginning of the war of 1870. When only soldiers are concerned, as was the case in 1815, once the defensive policy was adopted in Belgium, Wellington and Blücher were constrained to wait till Napoleon's plan was well developed before they could make up their minds for a concentration either on the right, left, or centre. When, either from lack of resources or preparation, or geographical difficulties, a nation is bound to remain on the defensive, it should not be merely a passive offensive, or a war of positions from which its armies are driven away step by step; it should be prepared for a defensive-offensive, and should be ready to spring upon the foe on the least appearance of weakness on his part.

In truth it is very difficult to conquer a resolute State not governed by party shibboleths merely, but trained in the school of patriotism, loyalty to leaders, and pride in past traditions. The frontier once passed, and the glamour of a few victories over, the bulk of the invaders cease to be interested, and look back with

craving to their homes. Their toils increase as they advance into the heart of the country; they have to wander far in search of food, or be content with the monotonous fare of their own commissariat. They are embarrassed with regard to their lines of communication, and disheartened at the constant recurrence of illness; they engage in wearisome sieges, and the marches in long columns cease to be exhilarating. These become, indeed, the most dreary exercises in which human beings can be engaged, fatiguing to the heads of the column, exhausting to the forces which follow them. "Slowness and toil," it has been well said, "are the characteristics of the movement of great masses of troops."

As Russia would not yield after the occupation of Moscow, Napoleon was obliged—there being no object to be gained by remaining in a burnt capital—to retreat, and the horrors of the retreat were worse than the terrors of the advance.

In the war against Austria in 1741 Marshal Belleisle entered Bohemia with a fine army, took Prague, and at first carried all before him. But, before the end of the year, the line of his retreat was traceable by carcasses. And yet this very retreat proved that he was not lacking in ability.

In the days of Turenne and Marlborough, armies when overtaken by winter—owing to the bad state of the road, the difficulties of provisioning, and the fact that they were units and not broken up into divisions and corps until after the French Revolution—were compelled to cease campaigning, and disseminate themselves in winter-quarters. That this was a matter of no small difficulty may be seen from the study of a few campaigns.

In the winter of 1672—3 Marshal de Turenne fixed his winter-quarters in the Westphalian dominions of the Elector of Brandenburg, after he had obliged that prince to repass the Weser. The precautions he took for their security were elaborate and far-reaching, as we learn from Feuquières. "The Head-quarters, toward the Weser, were in strong towns, where bodies of horse and foot were likewise posted. The flat country, which depended on the towns, was divided among the troops who were quartered in those towns, and was appointed to furnish them with their subsistence, as well in kind, as in money; and all the troops of the first line were in the Head-quarters. Those of the second, who were nearest Lipstat, a town belonging to the Elector of Brandenburg, and in which that prince had a strong garrison, were disposed in the same manner as the first line, with this difference only, that they were obliged to be attentive to the garrison of Lipstat, for their own security.

"Marshal de Turenne, besides these precautions, was careful to mark out a field of battle, at the head of the quarters of the first line, where he fixed the general rendezvous of all the quarters of the army, each of which marked out their routes for their orderly and expeditious arrival at the field of battle, in case the enemy, during the winter season, should attempt to repass the Weser to attack the quarters, which were always secured by these judicious precautions...

"In the winter before the year 1689, and after the conquest of Philipsburg, and the places in the Palatinate, Louis XIV caused one part of his army to winter on this side of the Rhine, and the other part

along the Necker. These quarters were not unmolested, but were raised at the close of January; not that there was any sufficient reason for that proceeding, but only through the misconduct of M. de Montclar, who commanded in the whole extent of that frontier. The King's troops possessed the Necker from Tübingen to Mannheim, and consequently the territories between the Necker and the Rhine, except the city of Stuttgart....

"The imperial garrison of Philipsburg retired, after that place was taken, to Ulm, and they were all the troops the Emperor had on this side of Austria and Bohemia. The circles of Suabia and Franconia had very few troops in those dominions; the rest were then in Hungary, where they only began to make the dispositions for their return to the Empire. In a word, there were no troops for 60 leagues round the French quarters who durst attempt to molest them. And yet M. de Montclar, upon a false intelligence of the approach of a great body of forces, raised all his quarters on this side of the Rhine so very suddenly that it rather resembled the ignominious flight of an army than the motion of quarters regularly raised¹."

¹ Feuquières, vol. II. p. 360.

CHAPTER III.

OTHER STRATEGICAL CONSIDERATIONS.

It is a principle of the Art of War that the general responsible for a given campaign should be allowed to work his scheme out with the aid of his staff to the end, without the interference of anyone—Prince, Cabinet, Parliament, or people. Otherwise success in war is unattainable. When it was proposed that the First Consul should direct Moreau's movements on the Rhine and Danube in 1800 as well as his own in Italy, the reply of the only man whose perception of the bearings of Strategy was almost instinctive was, "It is better to have one bad general than two good generals for the same operation," and he was right, as events proved, for Moreau did well, and made a triumphal journey from Schaffhausen to Blenheim, and from Nordlingen to Hohenlinden. If the general be not trustworthy and of assured capacity, then let him not be trusted. Councils of War and councils like the Aulic Council are equally to be deprecated; the former generally wish to shirk responsibility and are pusillanimous, the latter are behind the times and away from the theatre of war. What French critics have called the "*insensée*" flank march from Chalons towards Metz in August, 1870, was

not MacMahon's device; it was forced on him by Parisian politicians and the war minister Palikao. He saw that it was a monstrous suggestion, but he obeyed, and as victory was out of his power, he could only face death at the head of his battalions. He was wounded at the dawn of the fatal day of Sedan, when his army, surrounded on all sides, was obliged to surrender.

Mr Pitt senior was our greatest war minister; he preached the doctrine that, "in war, expense is the truest economy." His art consisted in understanding good naval and military schemes, selecting excellent leaders, and then supporting the men of his choice with all the resources of a people whose patriotic enthusiasm his eloquence excited.

It is a significant fact that, during the American War of Secession, for the three years during which the control of the armies of the North remained in the hands of the Cabinet, the balance of success lay with the Confederates. But in March, 1864, Grant was appointed Commander-in-Chief, Lincoln abdicated his military functions in his favour, and the Secretary of War had nothing more to do than to comply with his requisitions. Then, for the first time, the enormous armies of the Union were manœuvred in harmonious combination, and the superior force was exerted to its full effect¹. The Confederate politicians meddled much less with the arrangements of military chiefs than did the Northern; nevertheless on some occasions President Jefferson Davis interfered, and on one of these Jackson resigned in consequence. Had he not been persuaded to withdraw his resignation the Confederates' strategy would have

¹ Colonel Henderson's *Life of Jackson*, I. 255.

forthwith collapsed. Had Sherman's advice been taken at the beginning of the war how different would have been the result! When the people at White House said that a levy of three months' volunteers would crush the South in one campaign, he replied, "You might as well put out the flames of a burning house with a squirt."

It is as foolish to begin a war as to build a house without counting the cost, and the preliminary enquiries must be recondite and far-reaching. Before a war begins there cannot be too much prudence, after it begins there cannot be too much daring. In the preparation of any martial business counsel and care are the principal elements of success, in the execution of it secrecy and celerity. The Chiefs of the State should be thoroughly well informed concerning the resources of their own country and those of neighbouring Powers; the numbers and military spirit of every nation with which they can possibly have a *casus belli* as compared with their own; the possibility and consequences of combinations of several hostile States; the possibilities of alliances, and how far these may be to the advantage or the detriment of their own State. Then the relative finances are to be considered, the amount of taxation, the pressure per head having regard to the productive power and income per head; the reserve capital of each State, and how far after paying its own war expenses it could pay a war indemnity; how long each can live on its own resources without importing foreign food or munitions of war; how far the leading industries of the nation would be affected by a war—for example, there was desperate distress among the mill-hands in Lancashire in 1861-4 though we were at peace, and bread riots

in Italy in 1898, though Italy was at peace; what then would have been the attitude of the people of each State had it also been at war? These and many other similar questions should be definitely ascertained before the declaration of a war, or the ablest strategist may find himself checkmated by his own people before he has passed the frontier. But for the boundless credit of England how could Wellington have paid his troops in the Peninsula, especially as our Bank had suspended cash payment eleven years before the battle of Vimeira? The credit of France has also done marvels in meeting its own military demands, and in buying the victor out of its boundaries. But could France conduct a long war and pay a heavy penalty for failure with its present phenomenal national debt, the heaviest yet known?

But there are other "sage and serious considerations" that, when once public opinion at fever heat gets control of the national policy, are always ignored. The whole current of the thoughts of the masses runs towards battle. Now it is a proverb among tacticians that, when once a battle begins and considerable sections of the army are engaged, it is impossible to disengage them; the fight, however rashly undertaken, must go on; the other troops must support the first even at the risk of undeserved defeat. So it is with entering upon a war; it must be pursued to the bitter end, however unreasonable or well-nigh suicidal. With a State in such a crisis the only motto is *nulla vestigia retrorsum*. When an association of traders got the final charter of incorporation as the East India Company at the end of the 17th century they little thought that before the close of the 18th they would have become absolute masters of

India. They had no option but to extend their sway from Cape Comorin to the Himalayas, or be themselves obliterated by European or native rivals. Thus, too, the United States, having laid Spain prostrate with regard to the remnants of her colonial empire, while proving their power to conquer a neighbour in one short campaign, have also shattered their own traditional policy and involved themselves in responsibilities of the gravest character beyond the seas. In addition to all these far-reaching potentialities the State that would declare war—or, what is now the same thing, involve itself in a *status belli*—should have the most accurate information with regard to the details of the military condition of its antagonist in every respect, from weapons to organization. This information should be supplied by the naval and military Intelligence Department of the General Staff, if it be skilfully manned and adequately supplied with funds, and, if need be, money should be lavished on procuring by every possible means reliable reports of this description.

The principal lesson of the Franco-German war is that the military institutions of the country,—the army, the materials of war, the fortifications, and the fleet—should be the very first concern of the Government.

The principal military conditions which enter into the case of war are : (1) a field army, ready at all points, and as large as the resources of the country will admit ; and (2) a reserve sufficient to protect lines of communication, to guard fortresses, to complete the numbers of the battalions going to the front, and to fill up the gaps in the ranks which result from active service.

For continental nations conscription of the fullest

character is indispensable; indeed, is the only means whereby sufficiently numerous armies to cope with modern conditions can be maintained. Every healthy man, without any distinction of rank or social position, must be compelled to bear his share of the national burdens. The fact that so many of our own middle and upper classes shirk their military duties in connection with the Militia and Volunteers is a disgrace which may lead to a disaster. The troops must be of excellent quality as well as quantity.

Discipline should be maintained with the utmost severity and inculcated from youth up; in our country drill should be a regular part of the training of every boy, and every adult male should be taught to shoot. The officers should be manifestly of superior tone, of good character, of physical and moral excellence. In time of war punishment should be certain, prompt, and public, in all cases of insubordination. The shorter the service the greater the necessity for absolute discipline.

As to the instruction of soldiers, its object is to prepare men to fight. It ought, therefore, to be adapted to the circumstances of modern warfare. Each individual soldier, every unit of the military organization, ought to be taught to march, to bivouac, and to fight. Military education, then, should be practical, and should, as far as possible, give a clear idea of what would take place in battle.

It should moreover be national, and not a mere imitation of that obtaining in other lands. Every people has its own aptitudes and defects; the former should be developed, the latter cured. Above all, the *morale* of the men should be brought up to the level of their

responsibilities. The administration of military matters should be entrusted to thoroughly qualified persons, and to them only, all other political exigencies being resolutely kept in the background. Not only should the military establishments of the nation be complete in every respect, they should also be instantly available. The distribution of materials should be easy and rapid; the weapons should be of the highest quality, and of the newest and best pattern. The fortresses should be in the most suitable positions, should boast of the latest devices of engineering, and should be constantly brought into line with the progress of the military science. So-called economy is often more foolish than reckless waste.

It may be well to define some phrases which recur frequently in all strategic treatises.

The "Theatre of Operation" is all the territory available for the purposes of the war; for example, in 1870 all France was the theatre of operations. But manifestly certain portions of the hostile theatre will suit the purpose of the invader better than other portions; for example, it would have been very unwise for the Germans to advance from between Kehl and Brisach, while from Sierck to the Lauter was a very judicious choice. The term "Zone of Operation" is applied to that particular portion of the territory selected for the decisive struggle. The Germans proposed to limit the French to the portion of France north of the Strasburg-Paris road, and this became consequently the zone of operations. That their armies had afterwards to operate in the Vosges, on the Loire, in the Sarthe, and in Picardy was no part of their original design, and was

due to changes in the political and military conditions of France which they could not have anticipated. In simple language the "zone of operations" is the territory in which, at a given period of time, the general who has the initiative determines to manoeuvre. The phrase "theatre of war" is wider than "theatre of operations." All France and all Germany, and the seas on which French or German fleets floated, composed the theatre of war at the end of August, 1870. But in September the theatre of operations became France only, and in December there were no fewer than three zones of operations in France itself. The skilful selection of a particular theatre or zone of operations is a test of strategic ability, and Napoleon's selection of the St Bernard to Milan district of Italy in 1800 was a stroke of genius. There may be two or more distinct theatres of operations in the same war at the same date. In 1814, not to speak of their naval enterprises, the British conducted operations in the north of Italy, in Belgium, and in the south of France, all against Napoleon. In the Russo-Turkish War, one Russian army was at Kars, another at Plevna, and another on the Lom.

The phrase "Lines of Communication" refers to all means, such as rivers, canals, roads, and railways, which maintain the connection between an army and its base, or between the sections of an army which advances by several roads. A "Line of Operation" is the country traversed by the line or lines of communication by which an army advances towards its ultimate object. The base of the Germans in August, 1870, was the Rhine from Coblenz to near Karlsruhe; the line of communication of the several corps comprised all the railways thence to their

depôts in the various provinces of Germany ; their line of operation the country between Trèves and Strasburg, and thence to the Moselle between Diedenhofen and Toul ; their first object the utter defeat of the several French corps that assembled east of the Moselle, and if that would not bring about peace, a vigorous pursuit of the retiring enemy and the investment of Paris. A "Strategic Front" would be indicated by a line linking the heads of the various columns of the army as they faced the enemy. In July, 1813, the strategic front of Marshal Soult was from St Jean Pied de Port to the mouth of the Bidassoa, and Wellington's was from Pampeluna to St Sebastian, and both could only bring together their scattered divisions, or advance against the enemy, by rugged by-ways or dangerous defiles. In 1862 every section of the Federal front looked towards Richmond from Whitehouse to Fredericksburg, thence to Manassas Junction, thence to Winchester and to Franklin.

It is of no small consequence to the strategist whether his adversary's front is, with regard to his own, parallel or oblique, salient or re-entering. In May, 1800, the Austrian front in South Germany was from opposite Strasburg by Freiburg to Stöckach, facing the Rhine from Basle to Strasburg, but Moreau's front was from Schaffhausen by Basle to Strasburg. While he held the Austrians in the Black Forest and won a battle at Stöckach, he so threatened their communications that they retired to Ulm, abandoning 100 miles of territory, and thus illustrating the advantage of a re-entering frontier. Had his front been from Basle to Strasburg, parallel to theirs, he would have had no strategic advantage.

The "Front of Operations" is the space between the strategic front of two armies; this would in modern Europe be very limited in extent, and could be traversed in a few days at most; hence a combat will follow a declaration of war almost at once. The French and German fronts of operation between the Moselle and the Meuse, west of the line Thionville—Metz, and east of the line Verdun—Toul, now almost touch each other.

A front of operations is dangerous from a strategic point of view unless it is developed behind one or more important obstacles; unless it is covered by some artificial defence or natural support on both wings; unless its extent be proportionate to the forces which defend it in line of battle, and these forces can support each other at a critical moment; unless it covers the line of retreat; and lastly, unless, if retreat be necessary, there are behind it within convenient distances good positions for battle.

One of the most interesting branches of Strategic Geography is the fixing of what are known as "decisive strategic points" or localities in the theatre of war, the possession of which by either belligerent will materially affect the chances of success. The student will follow this enquiry all the more eagerly if he realises that, if he fixes upon any locality that *a priori* seems of first-rate strategic importance, in all probability, when he opens ancient history, he will find that his views coincide with those of the Romans. If a line be drawn from the mouth of the Scheldt to the mouth of the Danube as the crow flies it will be found that very little improvement in the knowledge of the relations of geography and strategy has taken place since the days of the Cæsars.

Take Cologne; Cæsar passed from Gaul into Germania there; Mayence was fortified by Drusus; the French camp of Châlons sur Marne is the site of one of the leading battles in connection with the decline and fall of the Roman Empire. The fortunes of Gaul were risked at Orléans in the fifth century as well as in the days of Joan of Arc and D'Aurelle de Paladines. Murviedro was the pivot of Suchet's operations in Valencia in 1813; under the name of Saguntum it is celebrated by Livy. The Ticino and the Trebbia are as prominent in ancient history as in the records of Napoleon. The course of an invasion of eastern peoples towards Central Europe and Italy will soon lead them to Belgrade and the junction of the Save with the Danube, and to Essek and the junction of the Drave with the Danube. This is the explanation of the desperate warfare that for centuries was waged in this theatre between the champions of the Crescent and the Cross, but we find that the Romans relied on these confluences as splendid opportunities for keeping the Goths and Huns from the gates of Italy in the Noric and Julian Alps, and long lines of fortifications of the most formidable character may still be traced along their banks. When a reader for the first time takes up a history of the wars between the Russians and the Turks south of the Danube he finds that the country and the names are alike familiar. Is he not traversing in his mind's eye the zone of the terrible battles whereby Adrian and other Cæsars for a period kept the barbarians at some distance from the treasures of Macedonia and Attica? In 1877 was not the extreme left of the Russians brought to a stay before Trajan's Wall, and did not their extreme right

carry Nicopolis? It was curious to observe during the manœuvres in Wiltshire in 1898 that our Commissaries, without having consulted any antiquarian authorities or being guided by tradition, planted their principal camps on the very sites where the Roman legions rested during their conquest of southern Britain.

The importance of Capitals is not purely accidental ; it depends upon the very nature of things and often upon those geological considerations which underlie the life of creatures. For example, Paris is really the heart of France, and was so in the days of Julian and Clovis as well as of our Henry V. and Napoleon. Near it are excellent materials for building, it is on the banks of a great river, the Seine, and about it converge important tributary rivers, as the Marne, the Oise, and the Yonne. It is surrounded by fertile districts, Brie, Beauce, Beauvaisis, Le Valois. All the products of France flow into Paris, and are thence distributed in all directions. These material considerations, rather than the mysterious influences on which Victor Hugo dwells, have made Paris not only the capital of France, but a centre of civilisation for the world at large.

So, too, what Vienna has been to Eastern Europe Montreal is to Canada. It has a population of 140,000, and covers an area of eight square miles. The St Lawrence is here crossed by the celebrated Victoria Bridge, an iron tubular structure nearly two miles long, supported on twenty-four piers of solid masonry. As a railroad centre, the head of unimpeded ocean traffic, the outlet of the Canadian system of canals—in brief, as the connecting-link between the ocean and the lakes—Montreal is a point of immense commercial and

strategical value, and has been termed the "key and the capital of Canada." In strategic importance it is second to Quebec alone, which is the Belgrade of the great Dominion.

In addition to the principal base there may be *Secondary Bases*.

An army which advances into the heart of hostile territory, as day by day it gets more distant from its base, begins to feel that it is not sufficiently secure. Any further advance might become hazardous, and it is most desirable after a certain number of marches, the precise distance of which will be determined by circumstances, to provide new *points d'appui* before going onwards, as well as a new base.

The defender, on the other hand, as he is obliged to retreat, covers himself with a new line more in the interior. Indeed, France has already a second line with very strong fortresses. In the new works and positions the strategist on the defensive will utilise the rivers and mountain ranges which intersect the invader's line of advance to the capital. If, as is so often the case, the enemy's objective is the capital and it is from 50 to 300 miles distant from the frontier, there will probably be several transverse rivers or ridges, or both, on which stands can be made, but once the invader has passed any considerable river and seized its artificial defences, it becomes a new base for him, and he can stand on it waiting for reinforcements and stores till he finds it convenient to make a fresh advance.

It is all very well for critics to urge rapid marches on generals. No army can move more than 200 miles in 15 days, and very few armies have done as much. Napoleon

thought 210 miles in 20 days a good performance. For a few days small armies may manage to cover 15 to 20 miles, but never for a long period, and the reader, if he wishes to discuss a strategic plan with acumen, should remember that the average rate of march of infantry in small bodies is $2\frac{3}{4}$ miles an hour. A corps can only march two miles an hour. Xenophon during his retreat brought 10,000 men 3465 miles in 215 days over difficult country. During their flank march to Sedan the French only covered $9\frac{1}{2}$ miles a day.

On the 29th of July, 1809, General Crauford joined the British army which had been victorious at Talavera, having marched 62 English miles in twenty-six hours. Each man carried 50 to 60 pounds weight, and there were only seventeen stragglers. This was the most rapid march of any body of foot-soldiers during the whole revolutionary war. One of the best French marches was Clausel's after the battle of Vitoria—60 miles in forty-six hours. Cavalry and horse-artillery can go 5 miles an hour inclusive of halts; field artillery $3\frac{1}{2}$ miles an hour.

Lord Lake, one of the best cavalry leaders in all history, though his fame has scarcely reached the ears of his fellow-countrymen, stretched the mobility of horsemen to the extreme limit before the battle of Ferruckabad. For some days previous to the battle both Holkar's men and the British had covered their 25 miles daily under the burning sun of Hindustan. But three British regiments on the night of the 16th November, 1804, surpassed the best performances of Murat, who in 1806 marched 450 miles in 24 days. They were ordered at nightfall to surprise the Maharaja's camp. They reached

the enemy before he could deploy, the horse-artillery opened fire on his tents, and Holkar's army was ruined. He only escaped by an accident. The victors had ridden 73 miles in twenty-four hours by the time the pursuit was over, besides fighting the whole of the Mahratta cavalry.

There were some remarkable marches during the Mutiny, when every Briton in India was on his mettle. On the 13th of May, six hours after receiving their orders, Daly and his men marched out of their station, reached Attock, 30 miles distant, next morning, and on arriving at Rawul-Pindi learned the welcome news that they were to proceed at once to Delhi. On the 9th of June, after moving at the rate of 27 miles a day for three weeks, they marched with a fine springing stride into camp at Delhi, and three hours afterwards went into action with the mutineers. This exploit, it must be remembered, was performed in the hottest part of the hot season. Another instance of extraordinary marching is that of the Sylhet Light Infantry, which, under Major Byng, when in pursuit of the rebels, accomplished 80 miles in thirty-six hours, having started on the 15th December. Finding that the enemy had eluded them, they continued their pursuit after a short rest, and, marching 28 miles more, overtook and defeated him early on the 18th.

Again, in the cold weather of 1858, Brigadier Park, with a flying column, marched 240 miles in nine days, on the last of which he had to thread his way through a thick jungle, and then fought and defeated the enemy. A few weeks later, Colonel Holmes, with a few infantry and artillerymen, marched 64 miles in a little more than

twenty-four hours across a sandy desert, surprised the rebels and beat them. Brigadier Bonner accomplished 145 miles in four days, and Brigadier Somerset 230 miles in nine days. Such exploits have never been exceeded by any troops; perhaps the nearest approach was a Bulgarian march in 1885. During the operations near Suakim in 1885 the 2nd battalion of the Grenadier Guards marched 20 miles in a day in rough mountainous country, without a man falling out.

The most rapid continuous march on record of a large army before the introduction of railways was that of Napoleon from the Channel to the Rhine in 1805. Three *corps d'armée* marched on three distinct lines, each corps marching by divisions at a day's interval. The average distance was 400 miles, and the time taken 25 days. During the Franco-German War the Ninth Corps marched 50 miles in twenty-four hours¹.

Lord Roberts thus describes his arrangements in Afghanistan:—"When it is remembered that the daily supply for over 18,000 men and 11,000 animals had to be drawn from the country after arrival in camp, that food had to be distributed to every individual, that the fuel with which it was cooked had often to be brought from long distances, and that a very limited time was available for the preparation of meals and for rest, it will readily be understood how essential it was that even the stupidest follower should be able to find his place in camp speedily, and that everyone should know exactly what to do and how to set about doing it.

"On the march and in the formation of the camps the same principles were, as far as possible, applied each

¹ Hamley, 1. Chap. iv.

day. The rouse sounded at 2.45 a.m., and by 4 o'clock tents had been struck, baggage loaded up, and everything was ready for a start.

"As a general rule, the cavalry covered the movement at a distance of about five miles, two of the four regiments being in front, with the other two on either flank. Two of the infantry brigades came next, each accompanied by a mountain battery; then followed the field hospitals, ordnance and engineer parks, the treasure, and the baggage, massed according to the order in which the brigades were moving. The Third Infantry brigade with its mountain battery and one or two troops of cavalry formed the rear-guard.

"A halt of ten minutes was made at the end of each hour, which at eight o'clock was prolonged to twenty minutes to give time for a hasty breakfast. Being able to sleep on the shortest notice, I usually took advantage of these intervals to get a nap, awaking greatly refreshed after a few minutes sound sleep.

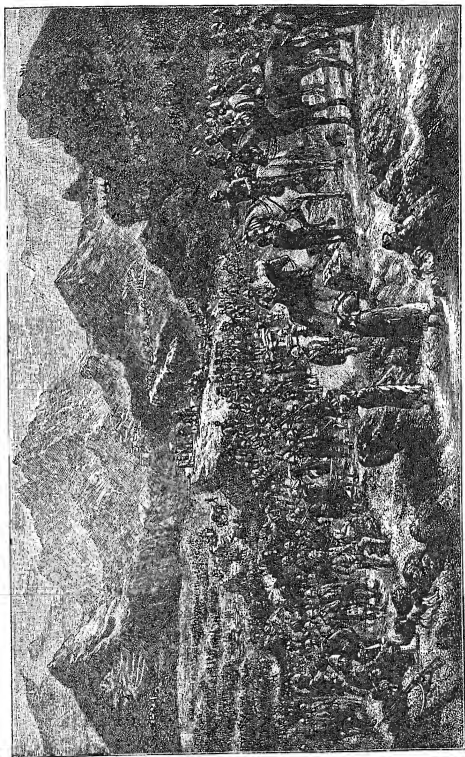
"On arrival at the resting-place for the night the front face of the camp was told off to the brigade on rear-guard, and this became the leading brigade of the column on the next day's march. Thus every brigade had its turn of rear-guard duty, which was very arduous, more particularly after leaving Ghazni; the troops so employed seldom reaching the halting ground before six or seven o'clock in the evening, and sometimes even later.

"One of the most troublesome duties of the rear-guard was to prevent the followers from lagging behind, for it was certain death for anyone who strayed from the shelter of the column; numbers of Afghans always hovered about on the look-out for plunder, or in the hope of

being able to send a Kafir, or an almost equally detested Hindu, to eternal perdition. Towards the end of the march particularly this duty became most irksome, for the wretched followers were so weary and footsore that they hid themselves in ravines, making up their minds to die, and entreating, when discovered and urged to make an effort, to be left where they were. Every baggage-animal that could possibly be spared was used to carry the worn-out followers; but notwithstanding this, and the care taken by officers and men that none should be left behind, twenty of these poor creatures were lost, besides four native soldiers.

“The variation of temperature (at times as much as eighty degrees between day and night) was most trying to the troops, who had to carry the same clothes, whether the weather was at freezing-point at dawn or at 110° F. at mid-day. Scarcity of water, too, was a great trouble to them; while constant sandstorms, and the suffocating dust raised by the column in its progress, added greatly to their discomfort. Daily reports regarding the health of the troops, followers, and transport animals were brought to me each evening, and I made it my business to ascertain how many men had fallen out during the day, and what had been the number of casualties amongst the animals.

“On the 12th August the Head-quarters and main body of the force halted to allow the cavalry and the Second Infantry brigade to push on and get clear over the Zamburak Kotal (8,100 feet high) before the rest of the column attempted its ascent. This *kotal* presented a serious obstacle to our rapid progress, the gradient being in many places one in four, and most difficult for



PASSAGE OF THE ZAMBURAK KOTAL BY GENERAL SIR F. ROBERTS.

the baggage animals; but by posting staff-officers at intervals to control the flow of traffic, and by opening out fresh paths to relieve the pressure, we got over it much more quickly than I had expected¹."

There can be no more striking proof of the strictly scientific character of strategy than its continuity. Napoleon was by his own admission a pupil of Alexander and Hannibal among the ancients, and of Turenne and Marlborough in modern times, and he was eager to be complimented as a hero of Plutarch's school. He wrote an analysis of the campaigns of Alexander, and frequently spoke of the Macedonian's merits during his voyage to Alexandria. The ancient conqueror recognised clearly the importance of a sea base, and the ablest of his adversaries would have probably stopped his career in Asia Minor had it not been for the over-confident obstinacy of the Satraps of Darius. Instead of pushing on at once to the centre of the Persian monarchy after the battle of Granicus, he preferred to form secondary bases on the sea-coast of Asia Minor, for example at Halicarnassus; and he took the maritime towns of Syria and became master of Egypt before risking a campaign in Central Asia. On the other hand, Memnon of Rhodes, the best of the generals of Darius, would have avoided any tactical contest with the Macedonians, being well aware of their superiority on the battle-field. He would have confined himself to strategy; he would have retired slowly before the invader, destroying all provisions as he retreated, somewhat after the fashion of Wellington in Portugal in 1810, and at the same time he would have availed himself of the Persian superiority at sea to make

¹ Lord Roberts, *Forty-one Years in India*, II. p. 347.

diversions in Greece and in Macedonia, just as Bentinck did from Sicily to Catalonia in 1813. But the Satraps concentrated on the Granicus to bar the way to the invader directly, and as a consequence they lost the battle and Asia Minor also, and all chance of utilising their sea power.

The leading points of the works of Vegetius, who lived in the time of the Emperor Valentinian, at the close of the fourth century A.D., might have been quoted word for word out of a 19th century military treatise. His suggestions with regard to recruiting, military exercises, organization, the order of march with advance guards, rear-guards, and flankers, and the skilful use of reserves in battle cause Vial, an excellent French author, to remark that his advice is full of wisdom and philosophic truth, and his treatise, as well as the works of Arrian and Polybius, are far from being mere exercises of archæological curiosity.

Though the movements of the Crusaders were by no means comparable to the great migrations of people which brought about such ruin in antiquity, yet they are of exceeding geographical and strategic interest. As being led by the most expert warriors of Christendom through the territory of the decaying Greek Empire, and as being a bold effort to roll back the tide of Islam from western Asia they are of great educational value, especially when the culture and prowess of the Saracens are remembered. Another important matter in connection with them is that they illustrate the movements of troops by sea, as well as by land, on a large scale. In the middle of the 12th century Louis VII. of France and Conrad II. of Germany were the leaders of a fine

host that went to the succour of the then Christian kingdom of Jerusalem in the 2nd Crusade. From France Louis VII. marched to Ratisbon and thence by the valley of the Danube towards Constantinople, where he learned the force of the proverb, "Timeo Danaos, et dona ferentes." The difficulties of supply were thus described by the old chronicler:—"From the time when we entered Bulgaria our spirits and our strength suffered severe shocks. Just as we were about to enter a desert country we procured all the provisions available at the little town of Brunduse (on the Morava). Our stores came for the most part from Hungary, and we had some difficulty in getting them across the Danube¹. We suffered much loss in exchanging our coin for the copper and brass money of the natives. We had scarcely carried our crosses into the territory of the Greeks before these degraded themselves by perjury. The Greek deputies had sworn unto us in the name of the Emperor Comnenus that we should find abundant markets and every facility for exchange. In place of this the towns were closed against us, and we could by no means provide a sufficiency of provisions for the wants of our folk. These, then, constrained by penury in the very midst of prosperity and fertility, were obliged to satisfy their needs by theft and pillage." As an example of how transport by sea was conducted it may be well to quote an agreement between the Venetians and the Crusaders, 1201, during the 5th Crusade. So pleased was the blind old Doge Dandolo with his guests that

¹ On the Danube was an enormous collection of boats brought down by the Germans, so many that they were used for a long time afterwards by the dwellers on the banks for building houses and for firewood.

he also took the Cross, and captured, not Jerusalem, but Constantinople. "We shall make *luissiers* [ships with gates on a level with the water-line to embark horses] for the embarkation of 4500 horses and 9000 squires, and other ships for 4500 more horse and 20,000 men-at-arms on foot, and for every horse and every man we shall embark nine months' provision at least. We shall do all this on payment of four marks per horse and two marks per man."

The Venetians kept their agreement so well, even to their loss, that the chronicler wished the barons had made no contract with other maritime towns. "*Ah ! quel grand dommage ce fut quand les autres qui allèrent aux autres portes ne vinrent par là ! La Chrétienté en eut été bien rehaussée, et la terre des Turcs abaissée.*" The barons on the other hand, at such a distance from their already mortgaged estates, found much difficulty in procuring funds. Although the Count of Flanders and Count Louis and the Marquis of St Paul pawned all their goods, they were 34,000 silver marks in debt, and yet the octogenarian Doge not only forgave them but joined them. All these troubles arose on the way to the Holy Land. It would be most interesting to trace the steps of the armies of warriors who were impelled eastward by the *volonté de Dieu* from the days of Godfrey de Bouillon in the 11th century to those of St Louis at the close of the 13th. How, during the 3rd Crusade against Saladin, were the knights of Richard I. fed, as they journeyed from England and Normandy to Cyprus and Acre, and how did he dare to undertake such an enterprise having regard to the roads and the ships of the period? So full of information are the answers to

these and similar enquiries that the Government of France has issued from 1844 to 1880 a magnificent series of volumes in honour of the Crusaders. These volumes also illustrate the ardent desire of the French to be prominent in the East.

As Madame de Witt (Guizot) says¹:—"A French pilgrim, Peter the Hermit, preached the First Crusade. A Frenchman commanded it, and, during two centuries, the conquest and defence of the Holy Land were intimately connected with the sentiments, the ideas, and the vicissitudes of our country. It was a French king, St Louis, who, last of the crusading chiefs, filled the Orient with recollections of our glory." We shall see in later portions of this treatise how sentimental considerations such as these affect the course of history after the lapse of centuries.

¹ *St Louis et les Croisades*, p. 1.

CHAPTER IV.

COMMAND OF THE SEA.

NO treatise, however elementary, on Strategic Geography would be complete without a chapter on Command of the Sea. Fortunately for our people the labours of so many able and industrious authors have recently been devoted to this subject that the meaning of the phrase is perfectly well understood by every student of modern history, and our politicians of all parties are at last alive to its paramount importance. Shortly, the phrase means the possession of a fleet strong enough and manned by men skilled enough to cope with and defeat an enemy's fleet, wherever it may be found, and when a Power aims at Colonial Empire in modern times, inasmuch as modern war-ships are steam-ships, it means not only frequent 'opportunities of port' for provisions, but also secure coaling-stations on every ocean route.

States have gained command of the sea by defeating hostile fleets, and have then proceeded, both in ancient and modern times, to found colonies and to land military expeditions either to harass or to conquer foreign communities. The science of this branch of strategy is clearly set forth in a most convenient form in the works of Sir George Clarke and Messrs Thursfield and Wilkinson, not to speak of Admiral Colomb and

Capt. Mahan. The present chapter is concerned rather with that which actually took place, than with what ought to have taken place had the leaders on both sides made the most of their opportunities, and had foresight, combined with experience and incorruptible patriotism, prevailed among the Governors of the various races of mankind.

In modern times, in spite of railways, good and numerous roads, and canals, the sea remains the main agency for the spread of civilisation and the circulation of commodities. In ancient times land journeys were everywhere beset with dangers and encumbered with obstacles, and, till the Roman roads connected together the cities along the Mediterranean and cut into the heart of Thrace, South Germany, and Gaul, sea routes, though confined to inland seas and narrow waters, were still of the greatest importance.

All naval annals begin with the Mediterranean. First among the races that claimed command of the sea were the Phœnicians. They founded their settlements on the coast of Palestine at a time when the Egyptians were at the height of their power, having previously been daring navigators of the Red Sea, and perchance of the Persian Gulf. The forests of Lebanon furnished the sturdy merchants of Tyre and Sidon with ample material for their ships. The scientific observations of the Chaldean star-gazers were utilized to guide them over the deep, and their kinsmen, the Canaanites, were doubtless ready to add to the numbers of their soldiers and colonists. Their energy, daring, and success from the time of Homer and the Mosaic writers till the days of Alexander the Great are commemorated by all ancient

historical writers, sacred or profane; they facilitated communications between the Western and Eastern Mediterranean and their stations were the *entrepôts* for the luxuries of Asia. Spain and north-western Africa proved sources of wealth; they sold amber from the shores of the Baltic and tin from the mines of Cornwall. They had colonies in Malta, Sicily, Marseilles, by the banks of the Guadalquivir and in Cadiz; they founded Carthage and, under Necho, are believed by many authorities to have circumnavigated Africa. The mercantile city was able to withstand Nebuchadnezzar after his conquest of Jerusalem for thirteen years. It resisted Alexander the Great for seven months, in spite of his enormous mole driven to the island through the sea, but when the Persians dismissed their fleet he gained sea power, and the independent political existence of Phœnicia was at an end 332 B.C. The diversion of trade to his new city Alexandria accelerated its decay. With the exception of Beyrout the harbours on the coast are now silted up, and few traces remain of the 'city of purple'—'the city that was glorious in the midst of the sea'—'the crowning city, whose merchants were princes, whose traffickers were the honourable of the earth.'

But while the influence of Tyre in the eastern waters of the Mediterranean was waning, its offshoot in the west was rising in opulence and power. It is a singular fact that the Egyptians, clinging to the valley of their sacred and life-giving river, never thought of sea power, indeed regarded mariners as 'accursed beings.' While their caravans traversed the less hospitable deserts and the Nile was covered with craft they had not a ship on the sea.

But the Phœnician flag was triumphant many a

time for many a generation after the exploit of Alexander. Indeed the heroic period of the Carthaginians was contemporary with the rule of his generals and their descendants, from Seleucus to Perseus. Having mastered north Africa from the Syrtis to Ceuta, they dared to pass the Pillars of Hercules and to voyage south as far as the mouth of the Senegal river and north as far as Britain. They commanded the Sicilian strait by the possession of Malta, and it was when endeavouring to become masters of Sicily that they came into collision with Pyrrhus and Timoleon and their fatal foe the Romans. The fertility of Sicily was celebrated, and accordingly the Carthaginian merchants looked upon it with longing eyes, and when Rome grew in population she derived the greatest part of her corn and other necessities from this most productive island. The Romans, hitherto merely land warriors, saw the value of sea power, and Duilius Nepos equipped a fleet of twenty-five galleys and defeated Hamilcar Barca in B.C. 260,—the first naval victory ever gained by them. At the close of the First Punic War the Romans were a leading sea power.

Hannibal during the Second Punic War made the Carthaginian name for ever glorious among strategists and tacticians, but his genius was displayed on land ; and the Romans alike in Sicily and in Spain carried all before them, and having gained command of the sea, under the leadership of Scipio Africanus attacked Carthage itself. This master-stroke recalled Hannibal from Italy. After he lost the battle of Zama 202 B.C. one of the conditions of peace was that the fleet should be destroyed. When the Romans captured Carthage

finally in 146 B.C. they also captured Corinth, and thus had undisputed sway of the sea.

The predominant position so long held by the Greeks, and all the glory of Athens, depended upon sea power. The battle of Salamis 480 B.C., which was contemporaneous with a great defeat of the Carthaginians at Himera in Sicily, rendered Asiatic rule impossible in Europe till the arrival of the Turks, and by giving the Grecians the command of the Aegean, opened up a way for such expeditions as those of Xenophon and Alexander.

The position of Athens from the date of Salamis till the Peloponnesian War B.C. 431 was one of the proudest preeminence, and its history at this epoch proves—as does also Roman, French, and British history—that success in war, whether by land or sea or by both, conduces to mercantile, literary, and artistic success; while a nation that forgets courage, ‘the chiefest virtue,’ and loses skill in the arts of war soon lags behind in the arts of peace.

Athens resembled England in being an excellent founder of colonies, and its colonies resembled some of ours in being ready not only to revolt from, but to wage war against, the mother country. The policy of Themistocles not only saved Athens; it gave to Greece her place in history. After the defeat at Salamis, Xerxes, fearing for the safety of his communications, hastily retreated to Asia, whose coasts were at the mercy of Greeks for generations. The Confederacy of Delos was designed to give the Greeks permanent naval power over the waters of the Aegean, but this confederacy was used by Athens for selfish purposes. Pericles continued

the policy of naval supremacy. But at the close of the Peloponnesian War the defeat of Conon by Lysander at Aegospotamos 405 B.C. gave the Spartans supremacy for a short period, till they were in turn defeated by Conon at Cnidos, 394 B.C. He then restored the fortifications of the Piræus, but too late; the prestige and power of Athens had departed.

The Romans made the Mediterranean an Italian lake, and had no competitors by land or sea from the days of Scipio Africanus the younger to the irruptions of the Barbarians. But they were not a maritime race by instinct, and fell far below the commercial enterprise and spirit of adventure that distinguished the sailors of Tyre and Carthage, or the followers of Nearchus, whose geographical discoveries did such credit to his employer Alexander.

In the civil wars which so frequently broke out from the days of the First Triumvirate to those of Constantine the command of the sea had a decisive influence. At the close of his career Pompey's power depended upon naval superiority, and at last, when beaten at Pharsalia, he was able to escape to Egypt.

In the *Epistles to Atticus* Cicero, speaking of Pompey's military plans, says:—"Cujus nunc consilium Themistocleum est, existimat enim, qui mare teneat, eum necesse esse rerum potiri,"... "navalis apparatus ei semper antiquissima cura fuit."

The Romans made few improvements during their long supremacy either in ships or in the art of navigation.

During the records of the Eastern or Byzantine Empire, for a thousand years, we find the sea power of which Constantinople became the centre was the safety

of the State. As long as they held control of the Dardanelles and the Bosphorus, and preserved the secret of the Greek fire, not only were the degenerate Greeks in the Sea of Marmora able to devote themselves to games and luxury with impunity, but neither Saracens nor Turks could secure a permanent footing in the Mediterranean Isles.

In the dark ages the Visigoths gained command of the sea and the hardy Scandinavians harassed the coasts from Denmark to Italy. In the middle ages enormous wealth was poured into the coffers of the Italians by the crusaders, who required transport to the Holy Land. The cities of Italy—Venice, Genoa, and Pisa—became rich and ambitious, supported large navies, and contended with the Saracens and Turks and with each other for predominance in the Mediterranean. Some of the enterprises of the Pisans, such as capturing with their fleet of three hundred vessels the Balearic Islands from the Saracens, and their attack on Palermo, are justly celebrated. Genoa still honours the memory of the great Doria, and the “Blind Old Dandolo” planted the standard of Venice on the ramparts of Constantinople.

The Venetians fought against western as well as eastern Christians. After the Venetian fleet under Ziani had captured or destroyed the fleet of Otho, son of the Emperor Frederick Barbarossa, Pope Alexander III. presented the Doge with a ring, using these words:—“Use this ring as a chain to retain the sea henceforth in subjection to the Venetian State; espouse her with this ring, and let this marriage be solemnised annually, by you and your successors, to the end of time, that the latest posterity may know that Venice has

acquired the empire of the waves and holds the sea in subjection in the same manner as a wife is held by her husband." This annual marriage continued till the independence of Venice was destroyed, and any of its outlying possessions that had escaped the Turks were seized by Bonaparte.

Marco Polo was a Venetian noble; he spent some years in the cities of Asia Minor, and then visited Hindustan, China, Japan, Ceylon and other islands, and amazed the Europeans by his vivid descriptions of vast territories, mighty cities, and stores of wealth of which they had hitherto never dreamed, but which they now determined to seize. In 1420 the Venetians had three thousand trading-vessels, three hundred larger vessels manned by 8000 sailors, and forty-five large galleasses, while no less than 16,000 carpenters were employed in their arsenals. After the fall of Constantinople the Venetian power was at its height, but it began to decline after the voyages of Columbus and Vasco da Gama.

The armaments which besieged medieval ports would have seemed very paltry affairs to naval officers like Rodney or Nelson, Hornby or Seymour. Edward III. was able to command the coasts of northern France and the Bay of Biscay with vessels which carried on an average some twenty mariners; the Mayor and Sheriffs of London, and the authorities of every seaport town were compelled to provide vessels of forty tons and upwards, and to furnish them with armed men and all warlike necessities. Edward had some five hundred of these, and his sailors dared to attack and board much larger and more powerful vessels from Spain and Italy, and the Hanseatic Towns. For the blockade of Calais

he assembled no fewer than seven hundred and thirty-eight English, and about forty other ships carrying some 15,500 mariners. He began the 'Hundred Years' War' with a great maritime success off Sluys. The Turkish occupation of the Levant closed the old commercial routes to the East, or at least rendered them most unpleasant for Christians, and this gave a stimulus to enterprise in other directions. Towards the end of the 15th century—when France was settling down after the long-continued inroads of the English, and England was reposing after the Wars of the Roses—the marvellous energy of Portuguese mariners led to the discovery of the Cape of Good Hope in 1487 by Diaz, and the attaining of India by Vasco da Gama in 1497. In the beginning of the next century were the splendid records of Albuquerque in India, and expeditions to such distant places as the Rio de la Plata, Goa, the Moluccas, Ascension, and Ceylon.

The Spanish having expelled the Moors, and being united under Ferdinand and Isabella, were also ready for a share in the wealth and excitement which daring navigators were opening up to western Europeans. Columbus steering for the East Indies came across the exhaustless riches of the Caribbean Islands, and his successors Cortes and Pizarro presented to Spain the wealth of Mexico and Peru. In 1493 Pope Alexander VI. acknowledged the sea power of both Portugal and Spain by dividing between them all parts of the world yet undiscovered. The Pope's original delimitation was that all territory west of an imaginary line drawn 100 leagues to the west of the Azores and Cape Verde Islands should belong to Spain, and all east thereof to

Portugal, and by the treaty of Tordesillas in the following year the line was removed to 370 leagues west of the Cape Verde Islands. The growth of the empires of both was rapid and far-reaching, and it was entirely due to sea power. Spain and Portugal were united from 1580 to 1640, and their empire began to fall to pieces—a prey to the northern nations of Europe, the English under Elizabeth, and her allies the revolted Dutch subjects of Spain. The French also soon began to develop commercial and colonizing activity at the expense of the Iberian Peninsula. The vast empire of Philip II. and his successors in the Mediterranean, Atlantic, Indian, and Pacific Oceans could only be maintained by command of the sea; this was lost in 1588, and, as Lord Bacon says, the Spanish Empire has ever since been similar to the Roman Empire during its decline and fall, “every bird taking a feather.” No land armies could save it, nor fortifications, nor wealth. Dissatisfied colonies discarded the feeble old country, and more powerful fleets chased its flag from the open waters, insulted its home ports, and took over its trade, while pirates like the Buccaneers or admirals like Anson seized Spanish galleons full of the precious metals.

The fall of the Portuguese empire supports the theory that “trade follows the flag.” The Dutch, after beating the Portuguese in India, took over their lucrative Indian trade. They did this the more easily as they had a better mercantile system; they not only brought goods from the East to their depôts in Holland, but they established distributing depôts in every other country in Europe, and put the commodities at the doors of their customers, whereas the Portuguese brought goods to

Lisbon, whence the customers had to convey them to their own depôts. Another blow to the Portuguese was the closing of Lisbon to Dutch merchants by Philip II.

From the days of Cromwell's wars with the Dutch till now the command of the seas has been a branch of British history. The glory of the British Navy may be followed in one continuous track of light since his time. He compelled the Spaniards, Portuguese, and Dutch to recognise the principle that territorial claims were not valid where there was not effective occupation; he put an end to the Portuguese monopoly in 1654, repudiating the old claims founded on the Bull of Pope Alexander VI. He opened the Eastern seas to British trade, and exacted reparation from the Dutch for their massacre and torture of British adventurers in the Spice Islands.

It is clear then from history that not only is an insular Power secure as long as it has command of the sea, but that it can assume the offensive with military expeditions to every part of the world, and thus take "as much or as little of the wars as it pleases," either being content with passive defence for a time, or harassing the coasts and roads, and hampering the commerce of its rivals. But a merely defensive policy, if long maintained, has always been disastrous. A naval Power that cannot keep up a large navy to strike prompt and hard blows against any aggressor in any sea that borders its domains will soon perish. In 1692 the battle of La Hogue saved our empire; in 1759 the battles off Quiberon and Lagos, and in 1782 the battles off St Lucia and in the Indian seas. The ultimate fall of Carthage was due to its lack of a sufficient navy; when this was deficient not even the genius of Hannibal could give security.

Admiral Colomb¹ proves conclusively that the use of steam and other mechanical appliances in the Chino-Japanese War in 1894, and the Spanish-American War in 1898 has in no wise affected the strategy of naval warfare, any more than rifles and breechloaders have affected strategy on land. Whether the Admiral be Doria or Barbarossa, Hawke or Sampson, Graves or Cervera, whether competent or incompetent, his success or failure will in each age depend on the adoption or neglect of a few leading principles. These the American officers, who manifestly had mastered the schemes of operations which made Nelson the embodiment of sea power, applied with skill and vigour in the late war, and thus they won, while the Spanish fleets drifted, rather than manœuvred to their doom.

The principal functions of a fleet have always been to blockade hostile squadrons in their own ports; to have a reserve squadron close to their own shores in order to prevent panic and to protect their own harbours; to convey and safeguard the mercantile marine; to protect 'provision ports' to which are now added coaling stations; but above all things to be able to meet and destroy battleships of the enemy in a great sea-fight.

In connection with naval strategy much has recently been said about *guerres de course*, an operation of war likely to be renewed in consequence of our foolish adherence to the Declaration of Paris in 1856 in a temporary fit of adulation for France, which now proposes to revive against us its privateering policy of the last century. The proximity of France to England facilitated commerce-destroying operations. Having ports in the

¹ *Journal of the United Service Institute*, April, 1899.

North Sea, in the Channel, and on the Atlantic, her cruisers started from points near the focus of English trade both coming and going. Dissemination of ports was an advantage rather than a drawback to privateers who did not propose methodical and combined regular sea warfare, but rather individual and fitful efforts. As the United Kingdom now largely depends upon external sources of food-supply, it follows that France is the nation most favourably situated to injure it by harassing its commerce. The position is stronger than it was in the last century, Cherbourg presenting a good Channel port, which France lacked in the old wars. On the other hand steam and railroads have made the ports on the northern coasts of the United Kingdom more available, and British shipping need not, as hitherto, focus about the Channel.

The following is a summary of the naval strength of England, France, and Russia in March, 1899.

	England	France	Russia	France and Russia	English strength necessary to blockade France alone
Standard Battleships	63	40	28	68	66
Armoured Cruisers... (modern)	21	16	5	21	26
Older Ironclads and Coast Defence.....	24	15	15	30	—
Modern Cruisers.....	116	40	18	58	90
Torpedo Craft.....	326	300	236	536	—

In the above comparison France and Russia are selected as the two next strongest Powers after ourselves. The lowest standard laid down for England by various experts is one of equality to the two next strongest Powers. This table will show our position with regard to that standard. In cruisers we are above it; in battleships below.

Of the 63 English "standard" battleships, 10 carry as their main armament muzzle-loading guns, and one is partly armed with muzzle-loaders. These guns are old and take different ammunition from the breechloader. They use black powder and not cordite—the disadvantageous consequences of which were felt keenly by Americans in the war of 1898. They are necessarily weaker than modern breechloaders, and are a serious cause of complication and inconvenience. Since modern heavy guns are replacing the old patterns in the French fleet, it is no longer true that our muzzle-loaders will have to face old weapons in other fleets. All except one of our old ironclads are armed with the muzzle-loader, and in many cases carry no larger quick-firer than the 6-pounder; that is to say they are without the 6-inch or 4·7-inch guns which the Japanese found of such immense value at Yalu.

Our coaling stations, starting from the St Lawrence and coming round to Vancouver's Island are:—Quebec, Halifax, Bermuda, Barbados, Jamaica, St Vincent, Trinidad, St Lucia (omitting home ports), Gibraltar, Malta, Aden, Karachi, Bombay, Trincomalee, Seychelles, Chagos Islands, Mauritius, Diego Garcia, Singapore, Hong-Kong, Wei-hai-wei, Labuan, Thursday Island, Brisbane, Sydney, Adelaide, Melbourne, Hobart, Albany,

Auckland, Wellington, Christchurch, Dunedin, Fiji, Durban, Simonstown, Cape Town, St Helena, Ascension, Sierra Leone, Falkland Islands, Esquimault.

The time taken for the voyages of the best appointed modern mail steamers from London to Bombay is about 13 days, to Hong-Kong 24 days, to Shanghai 28, to Adelaide 26, to Cape Town 17. A fast passage between London and New York takes 5 days and 8½ hours. It must be remembered that all the early navigators sailed in small ships, wretchedly equipped, and that our Indian Empire was founded when the voyage out took several months. The rate of 350 miles a day is a good average now for a steam-ship.

Vasco da Gama's journey to Calicut and back took two years, two months, and five days, during which some time was occupied in collecting samples of Indian products. Magellan, the first circumnavigator, was three months and eight days crossing the Pacific from his Strait to the Ladrões, and the whole voyage occupied just under three years. Drake sailed from England on the 17th December, 1577, with 166 men and five small vessels, and returned November 3rd, 1580, after his wonderful circumnavigation, with one ship and about fifty men. On one voyage he made a run from Florida to the Scilly Isles in 23 days. Anson's celebrated voyage round the world lasted about four years; he brought back in the *Centurion* the ruins of his force, and an enormous booty. Warren Hastings' first voyage to India lasted from January, 1750, to October in the same year. Nelson's trip to the West Indies and back began May 11th, 1805, from Lagos Bay; he reached Antigua June 12th, left it the following day, and was at the

Azores July 8th, returning to Gibraltar July 19th. Lord Roberts started for India February 20th, 1852, and taking an overland route through Egypt reached Calcutta April 1st.

With regard to cheapness of carriage, the cost of a given weight over a given distance by road is ten times the cost of the same weight for the given distance by railway, and the cost by railway ten times that of the same weight for the same distance by sea. Thus, 50 tons by road costs as much as 500 by rail, and 5,000 by sea.

Time is a supreme factor in war, and a nation which is not ready when hostilities break out, may never be able to get ready, but will be exposed to a succession of defeats, however great its wealth, numbers, and capabilities. Therefore countries which object to a large military expenditure and huge establishments in time of peace should aim at an organisation which would give time to develop their military power and change a passive defence into an offensive policy, otherwise, with all the potentialities of success at their disposal, they may be obliged to submit, not only to humiliating conditions, but to such guarantees and charges and loss of decisive posts as will cripple their energies for a considerable period. So much for organisation; once the campaign begins the mottoes of Gustavus Adolphus and Suwarrow, "Time is the first thing," and "Forward and strike," based, as they are, on experience, are the best upon which to act.

A case of the folly of entering on a naval war unprepared, almost as instructive in its way as the Franco-German War, was the war about impressment and the right of search between the United States and

England in 1812-1814. In spite of a few much belauded victories by American frigates over British ships, the difference between a successful and an unsuccessful maritime war could not be more strikingly illustrated. In Alison's words—"Perhaps no nation has ever suffered so severely as the Americans did in that war. The foreign trade anterior to the estrangement from England (*i.e.*, 1812)—£22,000,000 exports and £28,000,000 of imports—was literally speaking annihilated, for in 1814 the exports had fallen to 1,400,000, and imports to less than £3,000,000. Two-thirds of the mercantile and trading classes were insolvent, while our exports and imports, which in 1812 were £64,000,000, had increased in 1814 to £87,000,000."

Notwithstanding this increase of about 20 per cent. in our trade, a recent American author states that our trade was ruined. He may be answered by another quotation, but this time from an American historian, Patton, who thus writes of the result of the war:—"Affairs were most desperate, the treasury exhausted, the national credit gone, the terrible law of conscription like an ominous cloud hanging over our people; civil discord ready to spring up between the States, coasts yet subject to marauding expeditions, while the inhabitants were crying vainly for relief." The Legislature of Massachusetts, "after recapitulating the evils which war had brought on the people they represent, expressed sentiments on other wrongs such as enlistment of minors and apprentices, the national government assuming command of the States Militia, especially the proposed system of conscription for both Army and Navy." "Strange proposition," writes Admiral Sir V. Hamilton,

"for a government professedly waging war to protect its subjects from impressment¹."

Dakar and Walvisch Bay on the west coast of Africa, and Obok and Delagoa Bay on the east coast are strategic positions of much importance with regard to our Imperial communications. Though St Louis is the capital of the French settlement of Senegal and the most important place between Rabat in Marocco and Sierra Leone, its trade, owing to its bad anchorage, is carried on by Dakar, which is connected by rail with the capital, and has a deep harbour completely sheltered from westerly gales by Cape Verde, and defended by the fortified and historic isle of Goree. With regard to the German ports on the west coast of Africa it is clear from Prof. Keane's account² that neither Sandwich Haven nor Angra Pequena Bay can give us much trouble, and fortunately the British have possession of Walvisch Bay, with an area of 700 square miles. The British and Cape Governments are determined that this vitally important position must be kept at all cost, otherwise a region of 400,000 square miles would be lost, and it would in foreign hands be a base for operations against all our territory between the Zambesi and Orange rivers.

Obok has great advantages as a port for steam-vessels. Situated, as it is, in close proximity to the Straits of Bab-el-Mandeb, it commands this ocean passage within a much closer distance than does Aden. Merchant vessels, too, can coal at Obok without having to alter their course for this purpose, as they may have to do, if

¹ *Nineteenth Century*, March, 1896.

² Stanford's Compendium—*Africa*, vol. ii.

they go to Aden. It is true that as a port Obok cannot compare with Aden ; still it has a good anchorage, and without entering upon extensive works, it could be converted into a perfectly safe roadstead, for it is sheltered from the open sea by a line of coral reefs, through which canals or passages could be opened out and made practicable for large vessels. North and north-east winds—the most dangerous for navigators in this part of the world—are deflected from Obok by Capes Kolodtsa and Ras-el-Bir, which project far out seawards to the north of the port.

Delagoa Bay is the finest natural harbour and one of the most important strategic positions in southern Africa. The chief town on its shores is Lourenço Marquez. From Lourenço Marquez a railway runs by way of Pretoria to Johannesburg, a distance of about 400 miles ; but the nearest point of the Transvaal is only 50 miles away. As a glance at the map will show, Delagoa Bay lies at the mouth of the Mozambique Channel, through which our ships must pass going and coming between the Cape and our possessions further up the east coast of Africa, so that if this port fell into hostile hands our shipping in East African waters would be in grave peril. How grave a peril, is shown by our losses in the great wars of Nelson's time when the French held Mauritius. Between 1795 and 1797, though our fleets were everywhere victorious, we lost between the Cape and India, to French cruisers, no less than 1,475 merchant vessels ; and we went on losing till 1810, when we captured Mauritius, and our losses stopped altogether. The injury inflicted on us a hundred years ago from Mauritius might easily be repeated to-day from Delagoa Bay.

Even now, in time of peace, it is used to cripple our trade, and to give foreign goods an advantage over ours.

Under a treaty made in 1823 with the native kings, half of Delagoa Bay once belonged to England, but Portugal claimed the whole of it. Eventually the dispute was submitted to the arbitration of the President of the French Republic, who gave his award against us. But on the 17th June, 1878, a week before the award was declared, the Portuguese Government bound themselves "not to cede or sell to any third Power the territory known as Delagoa Bay, without giving Her Britannic Majesty's Government the opportunity of making a reasonable offer for the purchase, or acquisition by other arrangements satisfactory to Portugal, of the territory thus awarded." In 1891, under a Treaty negotiated by Lord Salisbury, this pledge was repeated and extended to the whole of the Portuguese territories south of the Zambesi. Thus it is that England enjoys rights in Delagoa Bay such as no other Power can lawfully claim or set aside.

But there are two Powers, Germany and the Transvaal, who by their words and actions indicate something more than a reluctance to recognise the finality of our right to the pre-emption of Delagoa Bay. The Transvaal naturally wants the harbour, having no outlet to the sea. And we shall do well to keep in mind the fact, for fact it is, that not long ago Germany is reported to have tried to land troops at Delagoa Bay for service in the Transvaal. That Portugal will loyally abide by the Treaty of 1891 need not be doubted, and if the naval power of that country were comparable to that of the greater Powers our rights might be held secure. But

the navy of Portugal is the reverse of powerful. Indeed if the British fleet were not behind her, her rights in Delagoa Bay would be insecure, and her loss of that port but a matter of time.

From the point of view of sea power the province of British Columbia is of great value to the Empire at large as well as to Canada. Save for its many fine ports we have no naval position from Cape Horn to Bering Strait. It seems strange that this immense stretch of coast for 115 degrees of latitude should have been forgotten, and that we should have omitted to seize some port on it, especially as the importance of the Pacific had been foreseen by Drake, but it is stranger still that British politicians in the sixties were quite willing that British Columbia should have been given up to the United States. Even as Nova Scotia stretches out towards Europe, so does this province stretch out towards Asia, and the distance between Liverpool and the far East by way of Vancouver is 1000 miles shorter than by way of New York and San Francisco. Moreover the ocean current, which leaves the coast of Asia, flowing eastward to the American continent, gives to ships bound for a north-western port a gain of twenty miles every twenty-four hours¹.

That the British methods as to colonies after they obtained sea power have been far more excellent than any other methods known is proved by history, and is admitted in a very able book on *The French in Further India*, by M. Chailleul Bert. Of course India and Egypt can scarcely be called colonies; they are territories under our rule, admirably administered. But with regard to

¹ "The Greatness of Canada," *United Service Magazine*, June, 1898.

colonies properly so called, the success of the British is thus explained by this authority:—

“The reason appears to lie in two traits of natural character. The English colonist naturally and readily settles down in his new country, identifies his interest with it, and, though keeping an affectionate remembrance for the home from which he came, has no restless eagerness to return. In the second place the Englishman at once and instinctively seeks to develop the resources of the country in the broadest sense. In the former particular he differs from the French, who were ever looking back longingly to the delights of their pleasant land, in the latter from the Spaniard, whose range of interest and ambition was too narrow for the full evolution of the possibilities of a new country.”

The British colonies are protected in their infancy by the fleets of the mother country, and when they have attained their majority are well assured that, as long as sea-communications remain open, the mother country will purchase their wares, in state ceremonials do honour to their representatives, and in her centres of military activity gladly train their sons in the art of war.

The meaning of “command of the sea” in a strategic sense is summarised in the orders given to the Red and Blue Fleets during the naval manœuvres of 1893. “If the Blue side has either been defeated or has been compelled to retire to a distance to avoid an engagement, and the Blue torpedo vessels have been destroyed or reduced to inactivity, the Admiral of the Red side is to report by telegraph if he considers that his side has gained the command of the sea so that a large expedition can be sent across it.”

The true method of protecting our islands from being either harassed by blockading-squadrons or invaded is not to keep a defensive force at home, but to hover around the enemy's ports and naval arsenals, as was clearly set forth by Drake, Raleigh, and Howard in the days of Elizabeth, and their theory was ably put in practice by Lords St Vincent and Nelson more than two centuries later. The effective strategy of viewing the enemy's fleet and attacking it was pressed upon Elizabeth by all her leading naval experts, but rejected in favour of awaiting the Armada in the Channel. The result might have been disastrous, but that the strategy of the Spanish was worse still, and that they were thoroughly defeated in tactics.

There are three kinds of war for our own country. There is first the war in which Great Britain begins with the command of the sea, and keeps it; secondly, the war in which, not holding the command of the sea at first, she eventually acquires it; and thirdly, the war in which the enemy ends by gaining the command of the sea. The third kind of war means the destruction of the British Empire, and, if the enemy wishes, the conquest of Great Britain. The second kind of war would put the British Empire into a condition of temporary dissolution for a longer or shorter time, the duration of which cannot be determined in advance, and would bring irreparable loss to British trade. The first kind, and the first alone, would secure the continuous maintenance of the Empire and of British trade, and the possibility of the further expansion of both¹.

The notion that our wealth afloat would be saved in

¹ *Command of the Sea*, by Mr Spencer Wilkinson.

a maritime war by the transference of our ships to a neutral flag and of our cargoes to neutral vessels has been based upon the supposed efficiency of the Declaration of Paris, 1856.

This notion is based on the idea that international arrangements have a sanction independent of force. A powerful enemy would soon put an end not only to such a transference, but also to the navy and shipping of the neutral State. Moreover, as we own more than 50 p.c. of the mercantile marine of the world, no neutrals have a sufficient amount of spare shipping to carry our cargoes as well as their own, whatever amount of freight our people might be willing to pay. To rely upon allies or neutrals is the desire of weakness. "*Nemo me impune lacessit*" is the motto of strength. At no critical period of natural development did any people find any effective assistance outside their own resources skilfully organised.

Bacon's doctrine is supported by the history of Japan, which has not been conquered for more than 1500 years, while she has been able to worry China for centuries, and, acting from a sea-base through the peninsula of Corea, to capture Port Arthur and Wei-hai-wei.

The Mexican Gulf and the Caribbean Sea are destined to be as important in regard to the strategic situation of the West Indies, North America, and South America as is the Mediterranean in regard to Europe, Asia, and Africa. Columbus, in search of Asia, came across the West India Islands, and going still westward, sought in vain all along the coast, from Cape Gracias à Dios to Cartagena, for some strait whereby he could attain India. For a while the Spanish had undisputed sway in these seas, but from the day when Cromwell's

Admiral, Penn, seized Jamaica to the epoch of Napoleon, the various European Powers struggled fiercely with each other for the possession of the several islands, which frequently changed hands. For a few generations the Buccaneers made British and French islands bases of operations against the Spanish traders and the various towns on the coasts of these seas. They recognised clearly the importance of the Isthmus, as clearly as Capt. Mahan himself, and from 1625 to 1688, having bases at Tortugas, Jamaica, and Old and New Providence Islands, they harried and robbed again and again Campeche, Vera Cruz, Maracaibo, Porto Bello, Cartagena, and all the other towns on the littoral and villages in the interior. Pierre le Grand, Davis, Mansfield, L'Ollonnais, Grammont, de Graaf, Teach, Roberts, and Kidd were no mere robbers; they were maritime tacticians of great ability, and they anticipated the operations of the regular commanders, whose battles in the wars from 1669 to 1802 made the West Indies so famous. The greatest was the British pirate Morgan; and his march across the Isthmus with 1200 men in nine days from Chagres to Panama, his sack of the town, and return to his base were displays of rare military genius. The neglect of the West Indies in recent years by our rulers is inexplicable, inasmuch as, during our desperate strife with Napoleon, they were the chief support of the commercial strength and credit that alone carried us to the triumphant end. The Isthmus and the Caribbean Sea were then vital elements in the constitution of our Empire, and our trade with that part of the world was many times more valuable than that with the Mediterranean. Moreover, the products of the Philippines were

conveyed to the Isthmus, and thence to Europe. It is most desirable that the attention both of statesmen and the commercial classes should now, as at the close of the 18th century, be directed to these seas, for, beyond a doubt, when once the canal across the Isthmus is made, whether its mouth be at Greytown or Colon, whether its course be by Nicaragua or by Panama, the various islands will become trading and strategic positions of the very first order, and if we neglect them we shall lose no small portion of our naval and mercantile pre-eminence.

The two most important islands are Cuba and Jamaica. With regard to the former, its possession and a good fleet give command of the Mexican Gulf. Havana was once ours, and had not the peace-at-any-price party under Lord Bute been in power in 1763, and had we retained it, how different would have been the history of the island! The United States have it now, and Anglo-Saxons have superseded our ancient Spanish enemy. As to Jamaica, its capture in 1655 was a lucky accident, but Cromwell sought for good fortune by the right road of sea power. Hallam says:—"When Cromwell declared against Spain and attacked her West Indian possessions, there was little pretence of justice." Perhaps as much as in the recent American attack on Cuba, but in both cases the expeditions were most expedient and profitable. "So auspicious was his star, that the very failure of that expedition obtained a more advantageous position for England than all the triumphs of former kings." This was Jamaica. On the question of these islands and the Isthmus, one cannot do better than quote Captain Mahan, who says:—

"Wherever situated, whether at Panama or at Nicaragua, the fundamental meaning of the canal will be that it advances by thousands of miles the frontiers of European civilization in general, and of the United States in particular; that it knits together the whole system of American states enjoying that civilization as in no other way they can be bound. In the Caribbean Archipelago—the very domain of sea power, if ever region could be called so—are the natural home and centre of those influences by which such a maritime highway as a canal must be controlled, even as the control of the Suez Canal rests in the Mediterranean. Hawaii, too, is an outpost of the canal, as surely as Aden or Malta is of Suez; or as Malta was of India in the days long before the canal, when Nelson proclaimed that from that point of view chiefly was it important to Great Britain. In the cluster of island-fortresses of the Caribbean is one of the greatest of the nerve-centres of the whole body of European civilization¹."

The principal sea-routes in this part of the world are as follows. From New Orleans by the Yucatan passage to Colon. From New Orleans by Key West between Florida and Havana, and between Florida and the Bahamas to New York. From Colon by Kingston in Jamaica by the Windward passage between Cuba and Haiti to New York. From Cuba by the Anagada passage past the island of St Thomas to Europe. The Mona passage between San Domingo and Puerto Rico is also of importance.

It is well to set forth clearly that no number of forts, harbours, fortified arsenals, or coaling-stations give

¹ *Interest of America in Sea-Power*, p. 260.

command of the sea. They are all valuable, as are also torpedoes in harbours, and mines, whether as bases or as means of protecting bases, or warding off bombardment, or destroying blockading forces. Too many naval positions, like too many inland fortresses, are a waste of resources. With regard to coaling-stations, they are now as essential to the life of navies as a supply of food is to the life of man. And the existence of coaling-stations for an enemy's fleet within easy reach of a country is one of the most serious threats to that country's security. The Monroe doctrine forbade any European State to make any further settlements in the American continent. To this prohibition is now suggested a further restriction, that no foreign State is henceforth to acquire a coaling-station within 3000 miles of San Francisco, a distance which includes the Hawaiian and Galapagos islands, and the coast of Central America. Hence the United States has annexed Hawaii. But no elaboration of defensive positions, no coast defences, however strong, give command of the sea, though they are both valuable and necessary. Command of the sea depends on the sea-going fleet, even as success in a land campaign depends on the field army. A strong fleet, capable of holding its own against any hostile fleet, and of taking the offensive, is the best line of defence for an island, and a not less admirable defensive instrument for a continental Power with a sea-frontier. Under such conditions as the modern competition and outward expansion of European Powers and of the United States, a strong navy is essential for any community that would hold its own. "The command of both the Indies," is now, more even than in Bacon's time, in the hands of the State that maintains a

strong naval force in a condition of constant readiness for action. Spain allowed her navy to be shut up in harbours and to be destroyed in 1898; the result has been the loss of the "Pearl of the Antilles" in the West Indies, and the Philippines in the East.

In connection with the command of the sea is the question of the command of navigable rivers. Once the sea power of an assailant becomes irresistible these are at his mercy. Thus the Federal gunboats used the Mississippi and the James Rivers as avenues into the heart of the Confederacy; and thus British maritime supremacy is not limited by the coasts of the great oceans, it has ramifications into the centre of North America by the St Lawrence, it is felt at Mandalay and Benares, and by the banks of the Atbara and the Niger.

CHAPTER V.

THE STRATEGIC IMPORTANCE OF THE MEDITERRANEAN SEA.

NOT only has the Mediterranean been the birthplace of European commerce, refinement, and culture, but in every period of history the command of this sea has had a decisive influence on the strategy of the nations whose territories are on its shores, and also on the commercial and military policy of states abutting on the Atlantic, the German Ocean, and the Black Sea. The strategic geography of the islands and positions on its shores would require a bulky volume, but some of the most important of its features can here be indicated.

Large as the sea is—2300 miles in length, and in places nearly 500 miles wide—its avenues of entrance are narrow. The Straits of Gibraltar are not quite nine miles wide, the Dardanelles and the Bosphorus each about a mile. Forts mounted with the best modern guns would make the entrance of a hostile fleet either into the Mediterranean or Black Sea a dangerous experiment. By its shores or on its waters the fate of Europe and Asia has often been decided.

The battle of Salamis saved Europe from an Asiatic domination. The later records of Greece and Syracuse,

and the realms governed by the successors of Alexander, abound in striking examples of the importance of naval actions and naval bases in this sea. The wars between the Romans and the Carthaginians were at first chiefly maritime, and though Hannibal, by the possession of Spain, was able to make a march overland to the very south of the Italian peninsula, he was obliged to return for the defence of Carthage when Scipio, having the command of the sea, transferred the war to Africa. Even in the civil wars of Rome, as Pompey said, following the counsel of Themistocles,—“He holds that whoever becomes master of the sea, becomes master of all things.” Pompey would have worn out Cæsar if he had kept to a maritime policy in the Grecian seas, instead of risking all on the battle-field of Pharsalia, 48 B.C. The loss of the battle of Actium ruined Mark Antony, 31 B.C.

The importance of the Aegean Isles at large, and of such greater islands as Cyprus, Rhodes, and Crete, was of the first order in ancient times, and till the realms of Antiochus and Pyrrhus fell under the sway of Rome. For a long period the people of Italy relied on Egypt as we rely on America for corn, but when the Vandals won command of the sea under Genseric this source of supply was cut off. The merciless and astute Goth had worse things still in store for the capital of the world. He had passed from Spain into Africa and annexed Numidia, Mauritania, Carthage, Egypt, Asia Minor, and Thrace. He then, in 455 A.D., embarked a mighty force at Carthage for Rome itself. He sacked the city for fourteen days, and thus, after more than six centuries, Hannibal was avenged.

After the close of the dark ages Genoa, Pisa, and Venice became the centres from which the luxuries of the East were transmitted to the cities of the Hanseatic League, and thence to western and northern Europe. The territories subject to Venice when it had "married the Adriatic" and surpassed all Italian rivals, included stations all along the Adriatic and positions in the principal islands. Powerfully supported by the Knights of St John, the Venetians were the bulwarks of Europe against the Turk. No battle in any age was more fateful than Lepanto. The Turks had entire control of the Levant, they had a splendid fleet, skilfully manned. But Don John of Austria, commanding the Venetians, defeated them there in 1571, and they were confined to the western Asiatic and Grecian shores till at Navarino in 1827 Christendom became in turn the aggressor.

When America and the route to India by the Cape of Good Hope were discovered at the end of the 15th century, the centre of commercial, and consequently of strategic gravity, was transferred from Italy to the Iberian Peninsula. After the revolt of the Dutch subjects of Philip II. of Spain and the naval success of Elizabeth of England, "westward the course of Empire took its way." Holland and England played to Europe in the 17th century the parts enacted by Genoa and Venice in the 14th and 15th.

Rhodes was the last of the bulwarks of Christendom in the East to surrender to the masterful Turks; it held out for seventy years after Constantinople had fallen. It was once, as its name implies, "The Rose of the Levant." During the Peloponnesian War, and the other struggles that marked the decline of the states of old

Greece, it evenly balanced itself between the contending parties, always siding with the stronger. The heroic resistance of its capital to Demetrius Poliorcetes, who applied to its attack all the engineering resources of his time (B.C. 304), gave to the island the glory of war in addition to its previous fame for beauty and architectural splendour. It was plundered by Cassius, and thenceforward became alternately free and vassal under successive emperors. The Saracens are said to have sold its fallen Colossus for old metal. The Knights of St John received charge of the isle from the Byzantine emperor in 1308. They were past masters in the art of fortification, beating off Mahommed II. in 1480, and resisting enormous numbers of the Turks for four months in 1522, at a period when the Moslem chiefs were all Ghazis. The Turks allowed De Lisle Adam, the Grand Master, to transfer his heroes and himself to the island of Malta, where they forthwith began to erect a series of beautiful and imposing works named after the leading nations of Europe, from which the brilliant and enterprising Knights were recruited.

Malta has since had a most interesting history. Our people have in this age no idea of the horror with which the Moorish and Turkish corsairs of the Mediterranean were regarded in the days of Elizabeth and Charles I. Cromwell sent an expedition against the pirates of Algiers, but they played havoc with commerce, and even exacted tribute from our own Government, till their place of arms at Algiers was taken by Pellew in 1816. The Knights of St John were safe behind their impregnable fortifications; the whole isle was a fortress, with stations all along the coast and military roads in

every direction. From the point of view of defence it was, indeed, more than equal to the requirements of the time, and considering the interests at stake far superior to its present condition.

The Moslem corsairs, such as Byron celebrates in 'Don Juan,' were always at issue with the Knights. Their redoubtable chief Dragut, the pupil of Barbarossa and the rival in seamanship of Andrea Doria, ravaged Gozo but was killed at Malta in 1565. The Turkish admiral was reinforced by all his co-religionists in the Mediterranean, and maintained a series of able and desperate assaults from May 18th till September 7th. The skill both naval and military displayed on both sides was seldom equalled, but 9000 of a garrison repulsed 40,000 assailants. Within their works, which they kept on strengthening till Fort Tigné was finished in 1793, the Knights erected that lovely shrine to their patron saint which Sir Walter Scott considered to be one of the finest in Europe, but they also took care to construct in honour of the Grand Master Valette, who repulsed the Turks, the beautiful town and safe harbour of Valetta—one of the few towns "built by gentlemen for gentlemen."

The Moslem energy once exhausted, however, the Knights seem to have sunk into a state of apathy. Having been the safeguard of Christendom in their mid-ocean fortress, and having won again and again the thanks of all Christian nations, and the hearty admiration of their high-spirited adversaries, ease and luxury began to take the place of activity and skill. Their immediate surrender to the summons of Bonaparte, who could not possibly have spared time either to assault or invest the smallest of their positions, is another

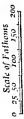


illustration of the axiom that the spirits and muscles of men, and not guns or bastions, are the defence of nations. There was not even a bombardment. Alison and the French general Caffarelli suggest corruption on the part of the French Knights; if so, they ruined their famous Order in June, 1798. The good fortune of Bonaparte was the more remarkable, inasmuch as the British, with absolute command of the sea, found some difficulty in taking the fortress, although it could not possibly be relieved from outside, whereas if the Knights had resisted *à outrance* in 1798 Nelson would have come to their assistance. The French Commandant Vaubois, with 6,000 men, withstood a siege of two years by Maltese, Neapolitans, Portuguese, and English, but he surrendered in 1800, and the island became a British possession. This was one of the causes of the renewal of the war after the Peace of Amiens. Napoleon said, "I would rather have the English on the heights of Montmartre than in Malta." In future complications in which the Orient is either combined with, or adverse to, the West, Malta will play a leading part. Moslem and Hindu soldiers from the banks of the Ganges and the Indus were quartered in the old palaces and casemates of the Hospitallers in 1878. Nor could the ablest of the Grand Masters have conceived such a display of fighting power and commercial prosperity as is in this generation constantly entering and leaving the harbour of Valetta under the standard of St George.

In 1669 the Venetians lost the island of Crete, which was taken by the Turks after a siege continued at intervals for twenty-five years, during which the besiegers lost 120,000, and the Republic 30,000 men.

Syracuse, though now of little strategic importance, and of no influence as a fortress since its destruction by the Saracens in the 8th century, once played a leading part in the military history of the Mediterranean. Its siege by Nicias was one of the most striking and celebrated incidents of the Peloponnesian War, and the study of its details is an epitome of ancient military and naval tactics. When the remnant of the Athenian army was shut up to perish in its quarries, their country had begun its career of inglorious decay. The city which Pericles had adorned sank within a few generations into a secondary position simply because of democratic turbulence and an inefficient general. Nicias, we are told, was the most respectable man of his age, but in war a vigorous character is worth more than all the private virtues. Nicias brought about the ruin of one of the most powerful expeditions of Grecian history 413 B.C., while the unscrupulous and cruel Dionysius made Syracuse, after it had attained military renown, one of the most artistic, wealthy, and powerful cities of the Grecian world. In regard to the Athenian siege of Syracuse the adage "what is wanted is not men but a man" applies with force. In 1814 Napoleon said,— "I have 50,000 men and myself, and that makes 150,000 men." And he was right: his adversary Wellington said the mere presence of Napoleon with an army was worth 40,000 men.

Sicily naturally occupied a prominent strategic position in the long struggle between Carthage and Rome for the command of the sea. When in the Second Punic War the Syracusans were so ill-advised as to take the side of Carthage they sealed the doom

of their city as an independent or free state. The siege by the Romans is a familiar story in all our schools, far more carefully studied than the siege of Badajoz. Not even the formidable engines of Archimedes could long avert the sack of Syracuse.

That singularly active Norman race which conquered England occupied Sicily in 1266; the phrase "Sicilian Vespers" still preserves the memory of the massacre by which the inhabitants got rid of them in 1282.

The British during the Napoleonic wars not only occupied Sicily and preserved it for the Bourbons when Joseph and Murat ruled in Naples, but also used it as a base for combined military and naval operations in Calabria and Catalonia.

In the centre of the Sicilian Strait is the island of Pantelleria, belonging to Italy, but it is not fortified.

In the Roman wars the services of the skilful slingers from the Balearic Islands were in constant request. Port Mahon in Minorca was the best harbour in the Mediterranean in the opinion of Andrea Doria. Stanhope seized it for the British in 1708. It fell to the French 1756, and was restored, but it was finally taken from us in 1782.

The settlements along the coast of the Levant from old Troy to Acre have stood the brunt of many a siege or naval attack; the most interesting to us, perhaps, are those of the latter city. Three times at critical historic epochs have British forces appeared before it. Richard Cœur-de-Lion took it in spite of Saladin; Sir Sidney Smith assisted in its successful defence against all the efforts of Bonaparte in 1799; and our fleet by the bombardment of 1840 stopped the march of Ibrahim Pasha

against the Anatolian provinces of Turkey, and perhaps against Constantinople itself.

Corfu was a fine British fortress up to 1864, when it was given up to Greece for sentimental reasons. Yet its surrender would not have seemed a wise policy to Napoleon, who said, "San Pietro [S.W. of Sardinia], Corfu, and Malta will make us masters of the whole Mediterranean."

The British siege of Toulon in 1794, when Bonaparte made his first successful strategic suggestion; the operation about Barcelona in 1704-5, where Peterborough displayed romantic genius; the capture of Gibraltar, 1704, and its subsequent sieges, especially its brilliant defence by Elliot against all the resources of France and Spain under de Crillon, are part of the schoolboy history of our Empire. But the northern coast of Africa has also felt the force of British naval and military skill. Thus, Pellew destroyed the power of the corsairs of Algiers in 1816. The battle of the Nile, 1798, was not so much a fight as a conquest. By Abercromby's victory at Alexandria, 1801, and the surrender of Menou, Bonaparte's Egyptian expedition was brought to an inglorious close. The bombardment of Alexandria in 1882 was the first test of the power of modern ships of war and their guns against forts; and the subsequent burning of the city and other proceedings of the Arabs were proofs of the futility of a mere naval attack unaccompanied by a military force able to land at once and to act with efficiency.

The position of Byzantium justified its choice by Constantine as the site of the capital of the Eastern portion of the Roman Empire 330 A.D. History has

during 1550 years borne this out. Throughout all this period the city has been a leading object in the ambitious dreams of every conquering race, and a strategic centre of the first importance. Its future fate is even now a matter for most anxious thought in every European Court. It has every advantage from the commercial and military point of view. From her seven hills the imperial city commands the shores of Europe and of Asia. Gibbon's glowing description is not exaggerated, as every traveller who has passed from the Golden Horn to the Black Sea can bear witness. Since the days of this historian a feature of melancholy interest has been added for the British traveller; for are not the graves of many a British soldier at Scutari on the right? The climate is healthy, the soil fertile, the harbour excellent, the approach by land narrow and easily defended. When the gates of the Hellespont and Bosphorus were shut, ample supplies of bread, wine, and meat could be procured from the coasts of the Sea of Marmora, and fish abounded in the surrounding waters. When the straits were open, the riches of all the known world were poured into the storehouses and bazaars of the celebrated capital, which age after age was the bulwark of Christendom against barbarism. The ruler of Constantinople, as long as he held the straits, had as much sea power as ancient times could provide.

From the very beginning the city was of preeminent utility. The barbarians of the Black Sea in the generation preceding Constantine had ravaged the Mediterranean coasts after the fashion of the Vikings in the British seas at a later date, but thenceforward their incursions ceased. The attacks on Constantinople began

in the middle of the fifth century and continued till 1453. It was only captured three times. In 450 the Huns assailed it; in 553 the Huns and Slavs; in 626 the Persians. It was besieged by the Arabs seven times between 668 and 782, by the Russians four times, but unsuccessfully, from 865 to 1043, and by the Hungarians in 924. Its first great catastrophe was its siege and capture by the Crusaders and Venetians, who sacked it in 1204, burned portions of the town, destroyed many famous works of art, and the altar of St Sophia, and possessed themselves of a spoil equal in value to seven times the whole revenue of England at that period. Michael Palæologus drove out the Latins with the aid of Varangians in 1260, and the Sultan Amurath vainly attempted its capture in 1422. It was soon to fall into Turkish hands, however, for Mahommed II. carried it in 1453 after a gallant defence of fifty-three days by Constantine Palæologus and the Genoese Giustiniani. The surprise of the unguarded gate of Kerkaporta ought to be a warning to the defenders of fortresses to leave nothing to chance.

A very regular system of *passagia* from the towns of the Mediterranean coast to the Holy Land was arranged throughout the Crusades. The exact dates cannot be ascertained, but there was a spring passage (*passagium Martii*) and an autumn passage (*passagium Augusti*). Richard Cœur de Lion's main fleet started from the different harbours of England, Normandy, Brittany, and Poitou after Easter, March 25th, 1190. They coasted Brittany, Poitou, and Gascony, but when rounding Spain were severely handled by the weather, though they reached Lisbon in safety. They left it July 24th, and

being reinforced, passed the Straits August 1st. Coasting Spain by Tarragona and Barcelona, they reached Marseilles. Leaving this port August 7th, they coasted by Genoa, Pisa, and Naples. They crossed the Straits of Messina with 100 ships and 14 strong two- or three-masted "busses." Each ship—in addition to 40 soldiers, 15 sailors, and 40 horses—carried a year's provisions for man and horse.

The busses took double cargo and gear. The treasure was divided among the ships. Messina was safely reached and taken, and the Greek or "Griffin" robbers and extortioners mercilessly punished by the "English Lion." It was here that the Crusading chiefs issued the elaborate regulations about commissariat and markets which are preserved in Howden's Chronicle. From Messina Richard went to Catania to interview Tancred, King of Sicily, having first met Philip of France, who settled all his difficulties with his fellow Crusader and gave him 10,000 silver marks. Philip left Messina in March, 1191, and reached Acre on the 21st April. Richard followed him April 10th, and after a very stormy passage reached Cyprus, and having reduced Isaac its emperor to submission, he married Berengaria at Limasol. When he had arranged his baggage, he set sail for Acre, but before leaving, appointed energetic men as his captains and wardens in Cyprus, leaving them instructions to send after him what victuals were necessary, namely, wheat, barley, and the flesh of all the animals in which Cyprus abounded. On his way to Acre, he took a great Saracen ship, the Dromond, which had many supplies for the Acre garrison; and it is probable that, had the ship got safe to its port, the Christians would never have taken

the city. The ship contained seven Emirs, and 800 chosen warriors, 100 camel-loads of arms, heaps of bows, spears, and arrows, a great stock of food, and much Greek fire. Saladin's confusion equalled that of Bonaparte's six centuries later, when Sir Sidney Smith performed a similar feat. "Now have I lost Acre," he exclaimed, "and besides those chosen men, in whom I placed my trust; I am overcome and oppressed by the harshness of my fate." How similar this action of Richard's fleet is to that of Sir Sidney Smith's in 1799!

Richard reached Acre June 8th, 1191. His fleet completed the investment, and the conquest of Cyprus gave the assailants an excellent depôt of supply. After the capture of Acre he went along the coast to Cæsarea, and thence marched to Arsuf, utterly routing the Saracen host. He reached Beit Nûba 13 miles N.W. of Jerusalem in December 1191, and began to retire January 1192.

The first volume of Sir W. Hunter's admirable *History of British India* recently published makes it so very clear that the ancient lines of communication corresponded on the whole with the modern, that some *excerpts* from it are desirable, especially as the position of Egypt now occupies such a prominent place in the policy of our people. A side issue of some interest to economists is that the Romans seem to have been as much concerned about the excess in money value of their imports and their exports as some of our own politicians; in their time the balance of exchange was distinctly in favour of India. From the founding of Alexandria (332 B.C.) its Asiatic trade grew with the improvements in the sea-passage. At a very early period the Arab navigators tried to avoid the northerly winds which

sweep down the Egyptian coast, by unloading their cargoes near the modern Kosseir, and transporting them overland to Thebes, the capital of the Nile valley. Ptolemy Philadelphus did much during his long reign (285—247 B.C.) to concentrate the Eastern trade at Alexandria, the new capital of Lower Egypt. He reopened the ancient cutting from Bubastis to the Bitter Lakes, and was only stayed from completing his canal to the Gulf of Suez by fears lest the Red Sea would flow in and submerge the delta. To escape the difficult navigation of the Suez Gulf, he founded, on the headland near its mouth, Myos Hormos (274 B.C.), whence the Indian wares were carried across the desert to the Nile valley. Still further to avoid the northerly head-winds on the passage up the African coast, Ptolemy created the emporium of Berenice at the southern extremity of Egypt on the Red Sea, and honoured it by his mother's name. A caravan journey of 285 Roman miles conveyed the eastern freights across wastes and mountains to Coptos on the Nile, with regular halting stations along the tract. Some of these still dot the desert, and the proposed Assuan-Berenice railway—for which a survey is at the moment of writing these lines being made—would revive the old trade-route from Ptolemy's harbour to the Nile valley by a shorter cut. Railway communication seems destined, indeed, to reopen the paths of Indo-European commerce. The Russian line to Bokhara represents, not too exactly, an old route from China by way of the Oxus, and the long-projected Euphrates Valley Railway would be the modern counterpart of the Syrian caravan track. The final development of the Indo-Egyptian route did not take place until three

centuries after Ptolemy Philadelphus, when the pilot Hippalus discovered the monsoons, or more strictly speaking, worked out the regular passage by means of them (circ. 47 A.D.). While, moreover, the Egyptian coast-passage is impeded by northerly winds during the greater part of the year in the upper part of the Red Sea, the navigation at its southern end is aided by regular alternations in the air currents, southerly winds predominating from October to June, and northerly winds from June to October. The establishment of the emporium at Berenice in the third century B.C. thus paved the way for a vast expansion of the Eastern trade as soon as the monsoons were put to their mercantile uses in the first century A.D.

Egyptian merchant fleets sailed from Berenice or Myos Hormos in July, rounded the modern Aden with a halt at Kanê in August, and were blown rudely across the Arabian Sea to Malabar by the middle of September—a voyage of sixty or seventy days from the Egyptian to the Indian coast. Having sold their western freights and bartered their bullion for eastern cargoes, they started from India at the end of December, and were wafted more gently back by the monsoons to their Red Sea harbours about the beginning of March. This monsoon route became the chief channel for the bulkier produce, as well as for the precious gems and wares of India; it enriched the ports along its line, and made Alexandria the commercial metropolis of the Roman Empire. Pliny lamented the vast shipments of gold and silver sent from Europe to pay for the products of Asia. "In no year," says he, "does India drain our Empire of less than fifty-five million of sesterces (£458,000), giving

back her own wares in exchange, which are sold at one hundred times their prime cost."

Of this great commerce, while Egypt still remained a Roman prefecture, two accounts by actual traders exist. The "Periplus of the Erythræan Sea," or the circumnavigation of the Indian Ocean, as it may be rendered, describes it within a hundred years after the discovery of the monsoon winds by the pilot Hippalus. Written probably by a Greek merchant who had settled at the southern Red Sea emporium of Berenice and voyaged to the East, its composition is assigned to some time between 80 and 161 A.D. It gives the seaports on the route, specifies ninety-five of the chief articles of traffic, and forms a wonderfully complete presentment of the Indo-Egyptian trade in the first century of our era.

The permanent importance of strategic points, whether sea power or land power be concerned, is manifest from a study of Mediterranean depôts, arsenals, and routes, both in the sea itself and radiating from its ports inland.

Going round its shores it will be found that every locality which the ancients felt to be of first importance has practically the same strategic influence now. The "Pillars of Hercules" in Europe and Africa will ever be jealously watched by rival powers, Carthage is of interest to Frenchmen as being the nearest *entrepôt* to Africa, Biserta takes the place of the port and fortress of Carthage, for Tunis is kept by the French in spite of treaty phrases. The towns on the Syrian coast have had the same strategic and commercial importance ever since the time of the Phœnicians; the position of Delos

still makes it the centre of the Grecian world; the islands and harbours near the Troad have been in this century the rendezvous of mighty naval squadrons, and would assuredly be an object for any western naval Power desiring to conquer what is left of Turkey in Europe or to command the Black Sea. The trade of Salonika is rapidly reviving; had the Greek navy been able to seize it or Dedeagatch near Enos Bay, the Turkish operations of 1897 would have been crippled at the start.

In olden times, when roads from ports into the interior of countries were bad, it was the object of merchants to get up to the very top of gulfs and bays, if feasible, in order to shorten the land journey as much as possible. Now that railway communication is preferred to the delay of a long sea voyage, the nearest port at the apex of a peninsula, as Brindisi, supplants ports like Venice or Genoa, and canals to reduce long sea distances are in vogue. The Suez and Corinth canals and the proposed ship-canal by the Bay of Biscay to the Gulf of Lyons are examples, as is the canal from the Baltic to the Black Sea which the Russians have in view.

The reports and rumours during the last year concerning the construction of this latter great waterway, though very conflicting, still lead one to suppose that it is feasible, and has been seriously contemplated, even if the work has not proceeded very far. The route proposed—as already mentioned—is from the Gulf of Riga, by the rivers Duna, Beresina, and Dnieper, to Kherson on the Black Sea, and fifteen ports or harbours are to be constructed at various places situated along its whole course of 994 miles. The channels of the rivers are to be deepened and new cuttings made where necessary, so

as to give a minimum depth of 28 feet of water. It is estimated to cost £20,000,000 sterling, or about £5,000,000 less than the amount said to be required for cutting the Nicaragua Canal, and it will take five years to complete. The primary object of this great undertaking is to connect the naval dockyards at Libau with those at Nicolaieff, and permit of the passage of Russian men-of-war to and from the Black Sea and the Baltic, thus neutralising to some extent the closing of the Bosphorus and Dardanelles in time of war. The transit from sea to sea will take six days. Moreover there is little doubt that such a ship-canal passing through Russian territory from end to end, developing a very rich tract of country, and bringing sea-borne traffic to the very gates of what have hitherto been inland towns, will prove a very great advantage to the trade of the country, and is bound to be a commercial success, while the physical features of the land and especially the existence of a clay soil throughout its whole length are very favourable to its construction. According to a usually reliable authority, it is estimated that about one-eighth of the canal only will have to be wholly artificial, and that only two locks will be needed. The worst difficulties will arise about the upper portion of the Dnieper, where it flows through marshy forests, and 200 miles from the mouth of this river there are a series of nine rapids falling 107 feet in 40 miles. The town of Ekaterinoslav on the Dnieper is 161 feet above the sea-level, while Alexandrovsk about 50 miles to the south, on the same stream, has an elevation of only 49 feet.

Arsenals and naval depôts as contrasted with commercial centres are placed as high and as near the

continental portions of peninsulas as possible; for example, Pola, Ancona, Spezia.

The towns in the south of France, Marseilles and Toulon, as means of attack are very useful. Thence have issued many excursions against other European States, but though they more than retain their ancient value, they are not likely to be attacked. The failures of the British in 1706 and 1794 demonstrate this, and though Nelson watched Toulon he did not attack it. It was almost neutralised by our possession of Port Mahon, and, as to eastern expeditions, it is seriously affected by Malta and Cyprus.

The proposed abandonment of the Méditerranéan in 1796 was one of the most egregious blunders in our history, but the policy of withdrawal and limitations of our liability has always advocates in our midst. Some writers would have us abandon our strategic position in this sea, and allow it to become a French lake. The commercial and military objections to this proposal are set forth by Sir George Clarke. It would be an extraordinary and utterly profitless act of self-abnegation on our part, and would at once reduce our lines of communications between East and West from interior to exterior lines, a policy as fatal to strategy on sea as on land. The future is of course uncertain, but the value of sea power in the Mediterranean is writ too large in history for any wise politician to venture to risk the consequence of its loss. National honour, splendid traditions, and the eternal principles of naval strategy alike forbid us to desert our commerce, and that of our colonies, on 3,000 miles of the element which we have been taught by successive generations of sea-officers to

call our own. If we abandon the Mediterranean and hand over to our rival the spoils of a great naval victory without firing a shot, we give to the world the sure sign of that madness which the affairs of men and of nations on the downward road preface with¹. In short we are in the Mediterranean, (1) because history shows that we must be there, (2) because our commerce there afloat is enormously greater than that of any other Power, (3) because no other waters would serve equally well for the training of our fleet. In the Mediterranean we must remain if our Empire is to last.

But it must once more be reiterated that no fortress, no harbour, no multitude of harbours can give sea power, which depends alone upon an efficient fleet. To this fortresses and harbours are undoubtedly useful hand-maids², but they cannot supersede it, and without it they are merely inert, though when well placed and supplied with modern works and guns they could defy a fleet or seriously hamper its offensive power. Expeditions must have good harbours for their transports, and if the Spanish works in Cuba and Manila had been furnished with trained men and with proper materials the American Admirals would have had a difficult task in 1898. Our fleet also did not seriously attack Rochefort or Brest in 1804-5, but they bottled up the squadrons of the enemy. In the same way many competent authorities fear that if the Toulon fleet became superior to our Mediterranean fleet, and moved athwart the Straits of Gibraltar, our vessels might be similarly pent up, cut off from succour,

¹ *The Navy and the Nation*, page 242.

² See Debates in Parliament April 14th, 1899, upon the question of fortifying Wei-hai-wei.

and, unless ample stores were provided in Malta, reduced to submission in very short time. It is a question if Malta, as a dépôt, is up to modern requirements, whether reserves of munitions of war or of provisions be considered.

CHAPTER VI.

THE UNITED KINGDOM WITH REGARD TO SEA POWER.

THE military enterprises of the Middle Ages brought Britons into touch not only with Continental Europe but with Asia. The exploits of Richard I. and his knights in the Holy Land were prominent among the numerous adventures that illustrate the prowess of Christians and Moslems along the coasts of Asia Minor, Syria, and Africa. Other Englishmen dared to join the Teutonic knights and repel the advances of the heathen of the north. The varied fields on which English valour had shone are pointed out by Chaucer in his *Canterbury Tales*, who says of his knight :—

“ At Alisaundre he was when it was wonne
Ful ofte tyme he hadde the bord bygonne,
Aboven alle naciouns in Pruce.
In Lettowe hadde he reysed and in Ruce,
No cristen man so ofte of his degre.
In Gernade atte siege hadde he be
Of Algesir, and riden in Belmarie.
At Lieys was he, and at Satalie,
Whan they were wonne; and in the Greete see
At many a noble arive hadde he be.
At mortal batailles hadde he ben fiftene,
And foughten for our faith at Tramassene.”

The soldiers of the Black Prince and of Henry V. made many a famous expedition by the banks of the Somme, the Seine, the Loire, and the Garonne, and the free companies of Hawkwood passed into Italy, and were prominent champions of the various rich northern republics during their ruinous conflicts for commercial and political predominance. The Black Prince passed the Pyrenees and fought a great battle near Najara, while some of his knights had a desperate affray in 1367 on the very hill which Picton's third division carried with a rush during the battle of Vitoria in 1813.

While our soldiers and sailors were struggling against Spanish maritime power from Cadiz to the West Indies, and against the matchless infantry of Alva and of Parma in the Low Country, the brilliant writers of Elizabeth's time clearly appreciated the consequences to mankind of the discoveries of America and of the sea-route to India. They wrote that if Britons were wise the wealth of the world must be the dowry of their country. Bacon waxed enthusiastic about the future of British power by land and sea, and with philosophic acumen summarized the best policy to pursue with regard to the planting of colonies. Patriotism is the keynote of the historic plays of Shakespeare—he would, if need be, defy the shock of the four quarters of the world in arms. Sir Walter Raleigh not only trimmed and singed the King of Spain's beard with sword and fire, but in pregnant pages laid down the principles underlying the permanence of our Empire with a clearness which no modern writer has surpassed. In his *Facry Queen* the sage and serious poet Spenser allowed his imagination to foreshadow many a form of power and enterprise

then unknown, to which our later history has given a local habitation and a name.

“But let vain man with better sence advise
That of the world least part to us is red
And daily how through hardy enterprise
Many great regions are discovered
Which to late age were never mentioned.
Whoever heard of the Indian Peru?
Or who in venturous vessel measured
The Amazon, huge river, now found trew?
Or fruitfulest Virginia who did ever view?”

These lines were published two years after the fate of the Spanish Armada gave our hardy sailors a fair field on the waters of both the Eastern and the Western Seas.

Let it not be supposed that the wind and the waves, or luck, or any species of miracle came to the aid of the British in 1588 any more than in 1805. Providence never favours the incompetent or inert. True, when Lord Howard and his coadjutors could no longer pursue it, the winds battered what was left of the Invincible Armada against the dreary rocks of the north of Scotland and the west of Ireland, even as another gale wrecked the ships captured by Nelson. The same qualities which made Napoleon and his corps the masters of southern and northern Germany in 1805 and 1806 gave England the victory over the Spanish. Our navy was superior in everything except bulk and numbers. The English had been taught by Drake a rational system of sailing-tactics and a sound marine strategy. They won by science, by a more intelligent comprehension of the art of naval construction and of gun construction, they were better led, they shot faster, and they carried more powerful batteries. Any defects

of their fleet were due to the politicians, and not to the naval instructors of the period.

But for some time the British had a vigorous competitor for supremacy, not only over distant Spanish settlements, but in their own seas. The Dutch, having won freedom from their Spanish masters, won wealth by their maritime energy. They dared to fling the gauntlet down to Cromwell when he was already master of England, Scotland, and Ireland, and when some of the ablest Royalist officers had joined his service. But, though gallantly and ably commanded by chiefs like Van Tromp and De Ruyter, the fleets of Holland were frequently defeated by Blake, Monk, Sandwich, and the Duke of York, and ultimately retired from the contest for maritime supremacy. Once the Dutch Stadtholder, William, became King of England, Holland and England were involved in a nine years' war against France, and Ireland was entered by French troops, leaving England in danger of invasion. But the battle of the Boyne, the indecisive battle off Beachy Head, and the decisive victory of La Hogue delivered our islands from all fear of invasion for more than fifty years.

In the reign of Queen Anne England became not only a sea power, but *the* sea power, and the navies of our new competitors in the paths of colonial expansion were regularly beaten in all parts of the world, from the battle of Malaga, 1704, to that of Trafalgar in 1805.

By the close of the War of the Spanish Succession we had already established trading-stations under the suzerainty of the Mogul emperors in Hindustan, while adventurers and pilgrims had planted our flag on the eastern coast of America from Massachusetts to Carolina.

Jamaica, St Helena, and the Guinea Coast had been secured. The Peace of Utrecht in 1713 brought into international prominence our colonial and mercantile policy.

In Europe throughout the 18th century we championed the balance of power, whether threatened by France, Austria, or Prussia, while our statesmen and people strove might and main to nurture our commerce by every fair means, and occasionally, it must be confessed, in the Spanish main, by methods which were not always justifiable. Our fleets were kept up to a wonderful standard of excellence, considering the wealth and population of the period. Even so early as the middle of the War of the Austrian Succession, 1740—1748, the spirit which produced Thomson's "Rule Britannia" pervaded all classes of our people.

The celebrated cruise of Anson during this war was a terrible blow to the prestige of Spain, and the victories of France on land were neutralised by our naval power, which saved our position, albeit not used to the best advantage.

During the interval between this and the Seven Years' War the schemes of Labourdonnais and Duplex in the East Indies failed because of our naval pre-eminence, though Clive and his agents were 10,000 miles away from their base of operations. Clive wrote to Pitt:—"The superiority of our squadron, and the plenty of money and supplies of all kinds with which our friends in the Carnatic will be supplied from Bengal, while the enemy are in such total want of everything, without any redress, cannot fail of wholly effecting their ruin."

It would be a good exercise for a student to take a map of the world and a dictionary of statistics, and

fairly estimate the difficulties in the way of such a complete mastery of strategy, and control of the avenues of communication with the most distant regions, as the British maintained from 1757 till 1762. There can be no question that supreme energy and genius were at work. Suffice it to say that they sent large forces to the country between the Weser and the Elbe, and that the British infantry won the admiration of their German leader Ferdinand, and their French enemy Contades, by the prowess they exhibited at Minden. By the banks of the Hooghly another British regiment, the 39th, *primus in Indis*, repulsed Surajah Dowlah. At the mouth of the Vilaine in France Admiral Hawke immortalised himself in 1759, and enabled the British fleet to do as it pleased between Europe and America. At Lagos Bay Boscawen ruined another French fleet in the same year. By the banks of the Ohio and on the coast of Cape Breton were laid at this period the foundations of Anglo-Saxon communities. The Americans are justly proud of their colossal manufactories at Pittsburg, but these works would have been French but for our desperate efforts at Fort Du Quesne. They have reaped the harvest sown with British toil on fields fertilised by British blood. Wolfe carried the heights of Abraham and handed down the Gibraltar of America to the British dominion of Canada; Amherst took Montreal, then a mere strategic point, but now one of the most important centres of the commerce of mankind. On the West African coast our cruisers protected our traders. In the Mediterranean our flag, which the unfortunate Byng had furled, was soon again triumphant. Admiral Pocock drove the French Commodore D'Ache

out of the Indian seas, and Eyre Coote defeating at Wandewash the brave De Lally, who had commanded part of the Irish Brigade at Fontenoy, the power of the French in Hindustan fell for ever. In the West Indies Moro Castle was captured and Havana fell, and twelve ships of war rewarded the victors. The Windward Islands also became British. A fleet landed eight thousand soldiers at Lisbon, who drove the Spanish invaders over the frontier. Manila and the whole group of the Philippine Islands surrendered.

Here then, in mere outline, are abundant examples of how her sea power enabled England—a small Power as far as her insular resources were concerned—to strike blows in every part of the world, and to act in the short period of five years on the most distant points without hesitation or without any loss of communications. It is desirable to repeat that there never was any more striking display of military geography as affecting war in the history of the world.

On the other hand, the value of individual bravery was exemplified by our adversaries. Privateers in these years did as much damage to our commercial marine as did the Alabama to Federal shipping during the civil war. Though the French had not one naval squadron afloat in 1761, their privateers took no less than 812 English vessels.

Two more periods of our history must suffice to illustrate the marvellous manner in which naval power has enabled our islands to hold their own and to preserve and enlarge their possessions against any combination of enemies, even when these found allies among our own people.

Let us take the position of affairs in the period from 1778 to 1782. The American colonists declared their independence in 1776, and by the year 1779 France and Spain had also taken up arms against us as their allies. In Ireland the so-called Volunteers still further hampered our policy. Hyder Ali from Mysore threatened us in India, as did also the Mahrattas. The armed neutrality of which the leading members were the Dutch was really a confederation against our "Right of Search." Our nation, which then had only 12,000,000 inhabitants and a revenue of £9,000,000, fought in Virginia and Carolina, at St Eustatia and near St Lucia in the West Indies, at Pollilore near Madras, and in the heart of India against the Mahrattas. One of our generals lost Minorca and another (Elliot) saved Gibraltar. Admiral Hughes off Trincomalee and Cuddalore checked the able efforts of De Suffren to rehabilitate his nation's influence in the Indian seas. We lost the thirteen American colonies in 1781, when Cornwallis was besieged in Yorktown by Washington and Lafayette. Admiral Graves allowed Admiral de Grasse to gain a very temporary command of the sea on the Virginian coast. As Washington very wisely remarked in a letter to de Grasse, "The general naval superiority of the English previous to your arrival gave decisive advantages in the South in the rapid transport of their troops and supplies, while the immense land-marches of our succours, too tardy and expensive in every point of view, subjected us to be beaten in detail....Whatever efforts are made by the land forces, the Navy must have the casting vote in the present contest¹." After this it is amusing to see

¹ Mahan, *Influence of Sea Power on History*, pp. 392—400.

the medal with the infant American Hercules strangling the British serpent. The serpent would have crushed the infant in its cradle but for the prompt and able assistance of its French nurse.

In the closing years of the last, and the first year of this century, the British displayed unparalleled activity in every sea. As usual, there were many expeditions to the West Indian Islands between 1796 and 1807. It will be an evil day for the future of our empire and our trade when, for whatever reason, we lose touch with the ports and fertile lands which stud the Caribbean Sea. We also despatched expeditions to Buenos Ayres, the Cape of Good Hope, Egypt, Sicily, Calabria, the Dardanelles, and Copenhagen. In India we fought Tippoo Sahib at Seringapatam, and the powerful Mahratta chiefs at Assaye, Argaum, Delhi and elsewhere. An insurrection in Ireland was suppressed. Decisive naval victories were won in 1797 over the Dutch at Camperdown and the Spanish at St Vincent, and over the French at the Nile in 1798, while the gate of Syria at Acre was closed to Bonaparte in the following year. We occupied Malta, and the new colony of Tasmania was founded in the southern seas. We won the strategic victory of Finisterre and the decisive battle of Trafalgar. These marvellous efforts of our nation all over the world when its population was only 16,000,000 excited the amazement and admiration of Bonaparte, and as early as 1797, at the commencement of his astonishing career, he wrote,—“Either our government must destroy the English monarchy, or must expect itself to be destroyed by the corruption and intrigue of those active islanders. Let us concentrate all our activity upon the navy and

destroy England. That done, Europe is at our feet." Europe was at the feet of Napoleon early in 1812, but the relations of the active islanders with the rest of the world were as widespread as when the renowned emperor had been plain Citizen Bonaparte and an agent of the Directory. Mauritius had been annexed, Java had been captured, we entered into a land and sea war with the United States, we fought in Canada, we occupied Sicily, we blockaded the ports of France and her allies, we moved our soldiers into the centre of the fastnesses of Nepaul; Wellington captured Ciudad Rodrigo and Badajoz, and our soldiers and sailors were at Lissa and Corfu. British commerce refused to die under the far-reaching and desperate policy of the continental system; on the contrary, it thrived, to the ruin of all competitors. And, notwithstanding all these long-continued wars and rumours of wars, the state of the people at home was so much more happy than the lot of dwellers in any other lands, that Burke exclaimed,—“Our houses are bursting with opulence into our streets.” An eminent foreign writer felt bound to confess that “there does not exist and never has elsewhere, so beautiful and perfect a model of public and private prosperity.”

Thus were justified after three hundred years the practical advice of Raleigh and the deep philosophy of Bacon. The melancholy ocean, which in the time of the Romans, separated the Britons from the rest of the world, had become a high road, with branches entering into every bay and river-mouth, from Cathay to Vancouver Island, and from Lisbon to Quebec. Seas and rivers alike were turned into avenues for British trade,

and from their banks the challenges of red-coated sentries warned all intruders that they were carefully guarded by the armed retainers of a world-wide empire. Yet in those days, the days of the Georges, there were no steamboats or railways.

These facts explain our present position and the marvel that 40,000,000 of Britons rule 400,000,000 of other folk, that an area of 121,000 square miles holds sway over 11,000,000 square miles, that our capital at home amounts at the most moderate estimate to £12,000,000,000, and that our language is spoken by 100,000,000 people. Even if luxury or political cowardice were to bring about the decay of the United Kingdom itself, nothing can prevent the Anglo-Saxon race, with its vigorous offshoots in Australia, North America, and South Africa, from domination over a third of the globe¹.

During the reign of Queen Victoria no fewer than 10,000,000 emigrants have left our shores to aid in the foundation of the empires of the future. In striking contrast to emigrants from other lands, these colonists in British possessions get nothing but naval guardianship from the people at home; while on the other hand, they contribute enormous sums to the private wealth of the mother country. They have asked for the very minimum of aid to start their enterprises. In most cases when they were dwelling in the wilderness they sought no help, and were offered none, and their mother country, jealous of the liberty of her children, has been as eager to grant as they have been to establish practical autonomy. But if all these connections with distant lands were desirable in the last century, when our people

¹ Niox, *Expansion Européenne*.

could live on the produce of our soil, they are vital matters now, when the greater part of our necessities comes from abroad. It was then expansion and wealth; it is now expansion or death. Moreover, since the introduction of the use of steam, our manufacturing population has grown to such an extent, compared with our own agricultural population—and compared with the state of centres of population in other lands, ours being the only country where the urban folk are more numerous than the rural—that, unless we can keep open all existing markets, our workers cannot find employment, and unless we can find new markets, the next generation must not marry or their children will perish. It is thus almost criminal folly to neglect the teaching of political, commercial, and military geography. Foreigners see clearly how we stand, and teach their students the details of our colonies, the sources of our wealth, and how vulnerable we have become, as thoroughly as Elizabethan writers discussed the state of the Spanish empire.

One French writer has recently undertaken to prove from geography that our empire and commerce will soon be crushed out of existence between the soldiers of the Old World and the navies of the New. Such a future is by no means impossible. An alliance between Powers like Germany or Russia, and the United States against us might well bring about as critical situations as existed in the periods 1797—1799 and 1803—1805. However this may be, the words of the eminent geographer G. Niox should be well weighed. He contends that apart from all questions of ambition, glory, or international status, the colonial expansion of this

country is the necessary consequence of its industrial position, inasmuch as it produces yearly far more goods than its own people can consume. It also produces much less food than its operatives require, even if they were moderate and temperate in their requirements, whereas in point of fact, they are far from being either, and the servants and middle classes, with regard to diet, are relatively the most luxurious of mankind. With its square miles of mills and its myriads of workers, it is condemned to perpetual production if its fixed capital is not to rust out, and its circulating capital to lie stagnant, the families of the labouring classes to starve, and those of the mercantile classes to be reduced to a diet of pulse.

The existence of the operatives depends on our lines of communication by sea being left open and on "open doors" for our merchandise in every clime. Englishmen, therefore, have before them the duty of always concerning themselves with the opening of new markets and the search for new customers—of making, in short, their industrial machinery as complete and perfect as possible, so as to strive with success against their foreign competitors in Asia and Africa. They have not so concerned themselves for a generation; and with all their strategic advantages by sea, they will be ousted unless the new generation can sell mind as well as matter, and cultivate brains as well as muscles.

Shakespeare speaks of England as being a jewel set in a silver sea, but Niox's description of the country is now more exact:—"It is a block of iron and coal as isolated as was Ultima Thule." But the wisdom of our ancients planted sources of demand for the products of

iron and coal in combination in many a colony and subject realm. The products of our looms and anvils flow in a perpetual stream into our ships, which make up half of all the trading vessels of the world, and bring back food and numberless articles of luxury from more genial climes.

These considerations now form the key to the solution of our foreign policy. We must see that the £1,100,000,000 worth of goods annually carried in the 36,300 vessels of our mercantile marine be not delayed *in transitu* by any hostile force; we must support a very powerful war fleet, and maintain coaling-stations, re-victualling-stations, and repairing-arsenals along all the great ocean lines of communication.

An interesting fact in connection with our empire is that the population under our rule in Africa already equals in number that of our Indian subjects in 1801, and is increasing in numbers and wealth at a very rapid rate. The present condition of the British empire, on the authority of Sir R. Giffen, may be summarised as follows:—

“The Empire, as thus viewed, is a territory of 11,500,000 square miles, or 13,000,000 if we include Egypt and the Soudan, and in this territory there is a population of about 407,000,000—which would be increased to over 420,000,000 if Egypt and the Soudan were included—a population about one-fourth of the whole population of the Earth. Of this population again, about 50,000,000 are of English speech and race, the ruling race, in the United Kingdom, in British North America, and in Australasia; and the remaining 350,000,000 to 370,000,000 are the various subject races,

for the most part in India and Africa, the proportion of the governing to the subject races being thus about one-eighth. South Africa is an exception, being self-governing, with a white minority in power, but with the black subjects greatly predominating in numbers.

"The increase in area and population in this Empire, again excluding Egypt and the Soudan, amounts, since 1871, to 2,854,000 square miles of area, or more than one-fourth of the whole, and to 125,000,000 of population, which is also more than one-fourth of the whole. The increase of the ruling race included in this population amounts to about 12,500,000, or about one-fourth of the number in 1897; and the increase in the subject races is 112,000,000, or nearly one-third the numbers in 1897. The increase in these subject races is largely, but by no means exclusively, due to annexation.

"The present revenue of the different parts of this Empire added together amounts to £257,653,000, and the imports and exports to £1,375,000,000. The increase since 1871 also amounts to £115,143,000 for revenue, or more than 40 per cent. of the present total, while the increase in imports and exports amounts to £428,000,000, or about one-third of the present total. The latter increase is perhaps greater in appearance than it really is, as all the figures are not reduced to a gold valuation, those for India for instance being in tens of rupees; but it has also to be considered that the gold valuation itself, owing to the increase in the purchasing power of gold since 1871, prevents the real growth of almost any economic factor being fairly shown by values only. The Import and Export figures are also subject to the observation that the trade of each part of the Empire is

largely with other parts of the Empire, so that for some purposes they ought not to be added together. The revenue of the self-governing English portions of the Empire also amounts to £145,000,000, having increased £60,000,000 since 1871, and the imports and exports of the same portions to £1,036,000,000, having increased £247,000,000 since 1871. The revenue of the states of subject races also amounts to £112,000,000, having increased £55,000,000 since 1871, and the imports and exports to £338,000,000, having increased £181,000,000 since 1871¹."

Another very important feature of our empire, in which it differs from the Roman and Spanish empires at the height of their power, is that the numbers and resources of the governing race increase at a more rapid rate than those of most of the subject races. This, unless the ruling race decays physically and morally, is a security for the permanence of its power.

With regard to France, the position since the beginning of the century has changed enormously to our advantage. But we cannot ignore the dangers which threaten our own future position from the phenomenal expansion in territory, population, and other resources of the United States and Russia, and the military power of the United German Empire, the high educational standard of its people, and the new-born maritime and commercial activity which now makes its towns worthy successors to the old Hanseatic league.

From a strategic point of view, Ireland is of the utmost importance to Great Britain, and must hence never be allowed to fall into foreign or hostile hands.

¹ *Journal Royal Colonial Institute*, March, 1899.

It is a land-barrier of 300 miles midway between the Pentland Firth and the English Channel, it commands all the Atlantic approaches to Great Britain, and our navy in the Irish Sea can harass hostile forces approaching by the northern or southern entrances alternately, or at the same time.

That intimate relations, owing to our unprecedented sea power, can be established between different parts of our empire was proved by the fact that Canadian voyageurs managed the boats on the Nile during Lord Wolseley's advance towards Khartum, and an Australian contingent arrived at Suakin in 1885.

The powerful influence of British naval supremacy in regard to international complications was admitted by Germany when it displayed feverish anxiety that we should join the Triple Alliance. General Maurice¹ says that the adhesion of our fleet would have been at least as valuable to the Alliance in case of war as reinforcements to the amount of 300,000 men. American authorities are unanimous in admitting that, whatever the motive might have been, our Government in 1898 conferred priceless benefits on their country. France and Germany became strong adherents of Spain, their newspapers wrote incessantly against the politics of the people of the United States. France may have been influenced by the fact that much of its capital was invested in the Spanish debt, and the United States' tariff engendered much animosity among the German cultivators. The Austrian Monarchy, for family and historic reasons, would also naturally favour Spain, "but Great Britain from the start took strong sides

¹ *Balance of Military Power*, 1888, p. 195.

with the United States, evincing an unexpected warmth of friendliness and a strong desire to ally itself with this country. Whatever the underlying motive in the British heart, this earnest display of friendliness was of much service to the United States. It tied the hands of our enemies on the Continent, who feared that any hostile act would result in an alliance between the two great Anglo-Saxon nations. Some active efforts at interference might have been made but for this haunting fear—Great Britain stood as a buffer between us and our opponents; she refusing to co-operate in any steps of interference¹." In a similar manner, Great Britain in 1862, by refusing to join the Emperor Napoleon III. in his schemes against the United States, did much to prevent their being ruined by the Secession States.

Canada has waited a good many years for equal opportunities with the United States in rapid and frequent communication with this country, and she is now in a fair way of winning them. In the past both her produce-trade and her passenger traffic were handicapped by the frequent necessity of maintaining the connection with home through New York, which to all intents was a foreign and almost a hostile port. For many years the sole line of passenger steamers that sailed out of Liverpool for Canadian ports was the Beaver Line, which was not to be compared for speed and sumptuousness with the lines running to New York. At that period neither Canadian produce nor Canadian passengers bulked largely in the estimation of Liverpool shipowners. Now, all this is changed. Canadian perishable produce demands as quick transit as that of the

¹ Morris, *War with Spain*, Chap. VII. p. 149.

United States. The Canadian Steamship Line was started in December 1898, to run from Milford Haven—with fast trains from Paddington—to Paspebiac, a new port at the mouth of the St Lawrence on the north of Prince Edward's Island, and its vessels are expected to perform the voyage in from four and a-half to five days. Another fast line of steamers, the vessels of which, it is said, will be the finest ever seen in a Canadian port, is about to start from Liverpool with a weekly passenger service to Montreal. The more of these lines the better both for Canada and the home country, for it will assuredly be found that greater facilities for trade and intercourse will increase both, and in case of war, the value of lines of communication open all the year from Liverpool to Esquimaux would be incalculable.

Indifference to colonial expansion at one period of our history brought us nearly to the point of allowing British Columbia as well as Alaska, Washington, and Oregon to be annexed to the United States. This would have been a serious loss to Canada and to our empire at large, but in 1871, by the energy of Sir John MacDonal, this splendid province was definitely secured and the trans-continental railway extended to the coast. The result has been of the first strategic importance, independent of the auriferous and other natural wealth of the country. It gives us fine ports on the Pacific coasts. Moreover it projects towards Asia, and the route from Liverpool to Asia by Vancouver is 6,000 miles shorter than that by New York. To quote the *United Service Magazine*:—"...these advantages, great as they are, would be of little value without good coal, of which British Columbia possesses an inexhaustible supply, whereas on

the coast it is poor in quality and limited in quantity. Esquimault, fortified by Canada and England, is thus a naval base of the utmost importance, in fact the key to Imperial supremacy in the North Pacific. Eastwards there is no other coaling-station nearer than Hong-Kong, southwards, none nearer than Fiji. In time of war it will serve the English navy to as good purpose as the want of it will completely paralyse the fleet of an enemy. Opposite stands Vancouver, the terminus of the Canadian Pacific Railway, by means of which England can land troops in China in half the time it would take by way of Suez or the Cape¹."

Some idea of the Dominion's spirit and confidence in her destiny may be gained from the fact that her greatest iron road was built, while its terminus was still an uncertainty, across a vast wilderness over a thousand miles long, and at an expenditure of £24,000,000. Surely never before did three millions of people undertake a public work so stupendous or so little likely to be productive except in the remote future. That they were colonials reflects fresh glory on the achievement, and is one of those stubborn facts which a cynical world can never explain away. Moreover nearly all the great public works of Canada have been conceived and carried out in harmony with Imperial interests. Therefore they are as necessary to the defence of the British Empire as they are to the defence of the Dominion herself.

The distance between Calcutta and Esquimault is 9100 geographical miles. For average trooping purposes 13 knots an hour may be allowed, and it may therefore be estimated as a 29 days' journey; but the speed might

¹ *United Service Magazine*, June, 1898.

be 15 knots, or 360 miles a day, in which case 26 days would suffice. The Canadian Pacific Railway journey would take six days at least, including embarkation and disembarkation. From Halifax to Liverpool is 2490 miles, which at 15 knots would take seven days. To transfer troops from Liverpool to Calcutta by Canada would therefore take 39 days.

From England to Calcutta by the Cape is an affair of 35 or 36 days. The mail to Bombay takes 14 days, but here we have to do with an overland route and very fast steamers, and the Suez Canal. Perchance the railway to Salonika may still further accelerate the transit.

Outside the British Isles proper, we have *points d'appui* in the following places :—The Channel Islands. In the Atlantic Ocean :—St John's, Newfoundland ; Halifax, Nova Scotia ; Hamilton in the Bermudas, Nassau in the Bahamas, Kingston in Jamaica, Antigua, Bridgetown in Barbados, Port of Spain in Trinidad ; Georgetown, Demerara. On the line to India by the Suez Canal :—Gibraltar, Malta, Cyprus, Egypt, Aden, Bombay, Colombo, Madras, Calcutta. On the road to China :—Colombo, Penang, Singapore, Hong-Kong, also Labuan, and Kuching in Sarawak. On the road to Australia :—Aden, Mahé (Seychelles) Mauritius, Adelaide, Melbourne, and the great depôt of Sydney. On the West and East African lines :—Bathurst (Gambia), Freetown (Sierra Leone), Ascension, St Helena, Simon's Bay, Port Elizabeth, Durban (pre-emption rights as to Delagoa Bay), Zanzibar. Besides the West Indian ports, we have also in the New World :—Port Stanley in the Falkland Islands, and Esquimault in Vancouver.

If it be true that our people spend a large amount on the Navy, though the sum is small relatively to that spent by other Powers, it must be admitted that the Navy, by protecting such vast areas of traffic, justifies its existence, and gives us a very good return for our money.

CHAPTER VII.

THE STRATEGIC RELATIONS OF EUROPE WITH OTHER CONTINENTS.

TAKING Europe as a whole, the northern frontier from Norway to the White Sea may be regarded as absolutely secure; and its western parts, protected by the Atlantic, were till quite recently considered perfectly safe as against any other continent. Although the course of Empire had frequently taken its way westward, though the New World had been called into existence to redress the balance of the Old, though Spain had by the instrumentality of Pizarro and Cortes annihilated the empires of Montezuma and the Incas, and though our own fleets had transported in the old sailing days large expeditions to Boston, New York, and Charleston, and carried soldiers up the St Lawrence to Quebec, it never had appeared at all probable that Europe might yet have no small difficulty in holding its own against the United States of America until 1898.

But now several European Powers besides Spain would be glad of an opportunity of co-operating against the United States if a favourable opportunity presented itself, and it is an open secret that, quite independent of any questions that might arise if an Anglo-American

alliance were concluded, a European continental alliance against the Western Republic, based on agrarian and tariff problems, has frequently been advocated in Berlin and Vienna. The questions of mere distance, however enormous they may appear to stay-at-home students, have never frightened a man of genius. Mongolia to Moscow is as far as from the United States to Spain. From Southampton to Bombay by the Cape of Good Hope is four times the distance of from Cork to Halifax. Spain conquered Mexico; England conquered India. From France to Tonquin by the Suez Canal is twice the distance of from Brest to Charleston. The geographical conditions which would affect a transatlantic invasion of any part of Europe were well considered soon after the close of the American "War of Secession" by the Italian geographer Sironi. He held it by no means impossible that a serious menace to Europe might come from America, having regard to the prodigiously rapid development of the life and power of the great Republic. Since he wrote, in numbers, wealth, and potentialities of future progress, its power has enormously increased, and it has already crushed one European State. Moreover the ablest naval author in the world, Captain Mahan, in May 1897, wrote an essay urging on his countrymen the necessity to share in the trophies of the "general outward impulse of all the civilized nations in the first order of greatness." He proved the necessity of seizing upon some port between Vancouver and Australia.

"The serious menace to our Pacific coast and our Pacific trade, if so important a position as Hawaii were held by a possible enemy, has been mentioned frequently in the press, and dwelt upon in the diplomatic papers

which from time to time are given to the public. It may be assumed that it is generally acknowledged. Upon one particular, however, too much stress cannot be laid, one to which naval officers cannot but be more sensitive than the general public, and that is the immense disadvantage to us of any maritime enemy having a coaling-station well within twenty-five hundred miles, as this is, of every point of our coast-line from Puget Sound to Mexico. Were there many other available, we might find it difficult to exclude from all. There is, however, but the one. Shut out from the Sandwich Islands as a coal base, an enemy is thrown back for supplies of fuel to distances of thirty-five hundred, or four thousand miles,—or between seven thousand and eight thousand, going and coming,—an impediment to sustained maritime operations well-nigh prohibitive. The coal-mines of British Columbia constitute, of course, a qualification to this statement; but upon them, if need arose, we might hope at least to impose some trammels by action from the land side. It is rarely that so important a factor in the attack or defence of the coast-line—of a sea-frontier—is concentrated in a single position; and the circumstance renders doubly imperative upon us to secure it if we righteously can¹.” Hawaii has since been annexed by the United States.

Mahan moreover deplored the fact that the finest West Indian island was in hands that were not equal to its requirements, inasmuch as the cluster of island fortresses of the Caribbean Sea is one of the greatest of the nerve-centres of European—indeed, of cosmopolitan—naval strategy.

¹ Mahan, *Interest of America in Sea Power*, p. 47.

"The intrinsic advantages of Cuba are pre-eminent, and also, but in much less degree, those of Great Britain in Jamaica. Cuba, though narrow throughout, is over six hundred miles long from Cape San Antonio to Cape Maisi. It is, in short, not so much an island as a continent, susceptible, under proper development, of great resources—of self-sufficingness. In area it is half as large as Ireland, but, owing to its peculiar form, is much more than twice as long. Marine distances, therefore, are drawn out to an extreme degree. Its many natural harbours concentrate themselves, to a military examination, into three principal groups, whose representatives are, in the west, Havana; in the east, Santiago; while near midway of the southern shore lies Cienfuegos. The shortest water distances separating any two of these is three hundred and fifty-five miles, from Santiago to Cienfuegos. To get from Cienfuegos to Havana, four hundred and fifty miles of water must be traversed and the western point of the island doubled; yet the two ports are distant by land only a little more than a hundred miles of fairly easy country¹." Since these words were written Cuba has ceased to belong to Spain. Philanthropy at the end of this century is as fertile in annexations as was ambition in past ages.

While the expansion of America westward and eastward has thus altered the future of international strategy and of political geography, the extension of Russia eastward has obliterated the eastern frontier of Europe from every practical point of view. The Caucasus, Ural Mountains, Ural river and Caspian Sea are mere local geographical terms of no present strategical importance.

¹ Mahan, *Interest of America in Sea Power*, p. 289.

Russian military power is moving across Siberia by rail to the Pacific, nor will the ice any longer hamper her development; a railway will ere long join the Amur to Port Arthur. There is a Russian railway from the Black Sea to the Caspian, and thence it is extending to the frontiers of India. Cossacks have replaced the Golden Horde. The people of Europe have avenged their ancestors; Muscovites hold sway in the districts whence, as fiercely as from Tartarus itself, Moslem heroes issued to the horror of the West. Russian pickets even now post sentries among the Pamirs, on the "Roof of the world," and the soldiers of the Czar guard the tomb of Timur-lane in Samarkand. The old European boundary therefore has ceased to be of the least strategic significance, and the defiles of Ekaterinburg, the Ufa, Orenburg, and Dariel, and the roads from Persia to Asia Minor and Syria, are now of purely archæological or academic interest, and unless China can be resuscitated and become a strong man armed, must so remain. As Napoleon said when justifying his raid into Egypt and Syria, "Europe is exhausted"; he challenged the right of Britons and Russians to omnipotence in the East. He failed, but since his time United Italy and United Germany have been added as competitors to the British, French, and Russians for the choicest regions of Asia and Africa.

With regard to the southern frontiers of Europe the time was when Numidians and Carthaginians and Moors more than held their own with the rulers of the northern and peninsular coasts of the Mediterranean. But every strategic position on the African shore, from the "brook that parts Egypt from Syrian ground" to the pillars of

Hercules, is now dominated by European force, and if any fortresses be built and any military schemes concerted in the land once defended by Hasdrubal or Jugurtha or the Ptolemies, it will be by Europeans against Europeans, and not against Africans.

It is therefore more practical to begin our studies with the configuration of the western European States and thence to work our way inward and eastward by the Baltic and the main routes of Central Europe and the Mediterranean.

The western front of Europe is represented by a line joining the extreme north of Scandinavia to Cape St Vincent in Portugal, in length 2700 miles—about the same distance as from Gibraltar to Tiflis, or from Crete to Novaya Zemlya, or across the Canadian Dominion. Along this measurement three salients are pushed into the ocean—the Scandinavian coast, the French coast, and the Spanish-Portuguese coast. These form three large bastions, while the British Isles are a kind of advanced work covering all the lines of invasion into northern Europe by the Channel, the North Sea, the Baltic Sea, and the river-basins opening into these seas. Scandinavia forms a third of the whole distance, but its coasts and mountain ranges are quite impracticable, and except as concerns its southern shores and their relations to the entrances of the Baltic it has no strategic interest with regard to its own interior, or to avenues leading to less mountainous and more prosperous districts. From the fjords of Scandinavia daring adventurers have, in past times, issued to ravage all the coasts of Europe, and sometimes to found inland States as in England and France and Russia, or, as in the days of Gustavus

Adolphus and Charles XII., to throw Swedish swords into the scales of international controversy, but the conquest of Sweden and Norway has presented few temptations to more southern nations.

Any invader who passes the Straits of Gibraltar can penetrate to the heart of Central Europe from the Gulf of Lyons or the Adriatic, but the Iberian peninsula commands the passage, and flanks its entrance and its exit. Therefore Spain could play a leading part either in the attack or the defence of Europe at large. The master of Spain now commands the western Mediterranean and also the basins of the Garonne and the Rhône, as at the close of the Peninsular War and as in the days of Hannibal. From Spain the Moors threatened Christendom and advanced as far as the Seine, the Jura, and the Alps. Moreover the Peninsula has a most advantageous situation with regard to the New World and the seas which wash the coasts of Africa, Persia, and India. The discovery of the West Indian Isles and of the passage round the Cape of Good Hope, and the founding of the first European factories on the African coasts, in Hindustan, and in the Asiatic archipelagoes prove how far strategic geography was once the handmaid of Iberian enterprise.

But neither Spain nor Portugal is likely to be a dangerous enemy for some time to come, while the enormous difficulties in the way of an invader—difficulties which render this territory most instructive to the student of strategy—will prevent Spain being used with any approach to promptitude as a base of operations against any other European Power. Of course if the "Pyrenees ceased to exist" the harbours of Spain would

be of the utmost value to France, and the union of the two States would produce a dangerous situation for the world at large, a situation which was only prevented by the constant efforts of Great Britain and Austria, and Portugal and Piedmont, from 1696 to 1713. It will be seen that in all political disputes in which Spain is concerned the question of sea power is of the greatest consequence. If an invader once gets hold of Spain it would be hard to eject him. The Moors bade defiance to all the courage of a succession of heroes for seven centuries, and when their power was at last broken they stood at bay for a long time in the valley of the Guadalquivir and in the fastnesses of the Sierra Nevada before making up their minds to recross the straits for their old African homes.

The middle section, then, of the Western front of Europe would clearly, as far as natural obstacles are concerned, be the most convenient for the invader. The line from the coasts between the Bay of Biscay and the Baltic is the simplest, but this line is re-entrant and flanked by two peninsulas, and is protected by the British Isles. The occupation of these isles and the northern section of Spain would be an indispensable preliminary to a grand invasion of central Europe from the Western Ocean. The occupation of France would greatly facilitate the invader's designs. A strong French army based upon this fertile soil, even after the wasteful excesses of Revolution, could and did work marvels.

Between 1805 and 1809 every Power in Europe, from the Channel to the Ural Mountains and from the Baltic to the Mediterranean, became either the subject or the obedient ally of Napoleon, with the exception of Portugal

and Spain, and their struggle would have been futile were it not that the wealth and the military and naval resources of the British Isles were placed at their disposal. A glance at the map of Europe will suffice for the present to set forth how the possession of the basins of the Seine, the Loire, and the Rhône would give strategic *points d'appui* against North-Western Europe, Switzerland, and Italy.

The Baltic Sea can easily be closed to the invader; the Danish straits can be blocked at will; indeed, although some 50,000 merchant vessels annually pass the Sound, modern ships-of-war of the first class could not do so, and would be confined to the Great Belt and soon involved in difficult navigation caused by the currents and the labyrinth of little islands. These straits are from seven to twelve miles wide. The British had no difficulty in the Napoleonic wars in enforcing their will on the Baltic Powers. They crushed the Armed Neutrality in 1801. After Nelson's great victory at Copenhagen over Denmark, Russia gave in, and agreed to the British right of search and to the capture of enemies' goods in neutral vessels, and gave up the doctrine of paper blockade. During the period from November to April the Baltic seaports are frozen, and another difficulty in the way of the invader is the peculiar character of the North German coast. It is too sandy and marshy, and its entrances from the sea too full of bars and other obstacles, to render it possible that ships of the first or second class could operate successfully either by bombarding such fortresses as exist at Königsberg and Dantzic and the mouth of the Oder, or by disembarking considerable expeditionary forces.

Though the British under Nelson were able to terrify the court of St Petersburg in 1801, they could not do so in 1854. The allies had some successes at Bomarsund, but their attack at Cronstadt was a decided failure. It might have been that the gunboats which were so lavishly and hastily provided after this failure for the special circumstances of the Russian coast would have justified their existence had the war been prolonged, but the ignoble Peace of Paris in 1856 closed the war by conceding, for no sound reasons, the very points for which we fought the Armed Neutralities of 1782 and 1801. Another failure in the Baltic was that of the French fleet in 1870. Admiral Bonet-Willaumez was ordered to detach a force to watch the very small German fleet at the mouth of the Elbe, and to proceed to harass the Baltic coasts and thus divert some corps northward from their march to France. One division and the local reserves were quite sufficient, and the French returned having effected nothing. Even if the Admiral had the troops necessary he had only large ships of war and no small vessels, though the experiences of fourteen years before might have given some lessons to the French Admiralty. He was brought home, and his sailors were more usefully employed in working guns in the fortresses, which the German invaders promptly besieged.

The German Ocean is much easier for fleets, and accordingly the Germans have linked the Baltic from their great arsenal at Kiel to the mouth of the Elbe by a ship-canal, but though the German Ocean is not a British *mare clausum* as Selden and Cromwell contended, it is under British command, owing to the

enormous trade done by the towns on our Eastern coast and to the fact that no hostile fleet can pass the narrow straits of Dover without a fight. There can be no possibility of eluding our fleets between Plymouth and Harwich. Since 1588 no fleet has been able to do so. The Dutch fought strenuously for twenty years to secure freedom of access from the Zuyder Zee and Rotterdam to their Asiatic dependencies, but in vain. In spite of some of the very hardest naval battles in history in the waters between the Cinque Ports and the Wash they failed utterly in the days of Cromwell and Charles II, and from 1689 till 1789 the Dutch were under British influence and owed what was left of their greatness to the British sword. Thus it would be impossible, so long as the United Kingdom is a powerful Naval State, for any nation not in alliance with her, or which had not secured her neutrality, to produce any effect on the fortunes of Northern Europe by sea power.

The Mediterranean is also a closed sea, as is the Sea of Marmora and the Black Sea. While Admiral Hornby could stop the Russians at San Stephano in 1878 they were starving, because their ships dared not approach the coast between the mouths of the Danube and the Bosphorus. Neglect of their navy by the Turks since 1878 has been their greatest strategic blunder. A British fleet at Besika Bay would command the Dardanelles. We hold Cyprus, which seems to Captain Mahan and the French geographer Niox the key of Egypt and Syria, though it is held in small esteem by many of our own authorities. But no one questions the value of the positions of Port Mahon which we once had, and of Malta and Gibraltar, now strongly fortified, and in

French opinion invulnerable, even if our fleets were obliged to leave them for a period.

It must be remembered that even before the construction of the Suez Canal, which has modified the whole current of international commerce as well as changed the centres of Sea Power, a temporary loss of our influence in the Mediterranean was highly detrimental to our interests. Still further caution is now required since the construction of works at Biserta by the French, which, but for Malta, would give them the command of the Sicilian strait between Sicily and Africa. The Italians, recognising the importance of this waterway, have fortified Maddalena and Elba and the Straits of Messina, but it would be dangerous to hostile fleets to venture past the fortress of Gibraltar if a British fleet were at hand, and impossible if the latter were allied with the Spanish at Cadiz. The French depôt at Toulon is extremely formidable, but it would be in the highest degree hazardous to try and join the Mediterranean fleet to the Atlantic fleet at Cherbourg, Brest, and the Gironde. Hence the scheme for a new maritime canal in the south of France from Bordeaux to Cette, as the existing canal can accommodate only torpedo boats. The Russian naval power in the Baltic is separated from the Black Sea fleet by a vast distance, and in war time Gibraltar and Malta could block the way to their junction.

To the new canal proposed to be constructed from the Gulf of Riga to Kherson on the Black Sea we have already alluded¹.

In less than ten years the Russian position in Manchuria will be unassailable, and Port Arthur, having

¹ p. 121.

regard to its geographical position, will be quite as strong as Cronstadt or Sebastopol. In substituting Port Arthur for Vladivostock as her principal naval station in the Far East, Russia gains immense advantages¹. The latter has scanty local resources, and is practically an island dependent on an uncompleted single line of railway four thousand four hundred miles long for its communications, being thus far less favourably circumstanced than Hong-Kong, in the hands of a great naval and maritime power. The former possesses coal, iron, rich agricultural possibilities, and a hardy population capable of furnishing excellent military material. It is also easily defensible against naval attack; and with a railway and a well-organised army at its back, it will have nothing to fear from operations such as those of the Crimean campaign, undertaken by a European power at a vast distance from any home base. Finally, when the Manchurian railways are constructed, great military forces will be within striking distance of Peking. No territorial advance of Russia in the present century is comparable in importance to the step which has just been taken, after long and careful preparation.

The momentous results of the possession of sea power appear in the modern history of Russia². The great stride in the Far East which has carried Russia from the banks of the Amur to the Gulf of Pe-chi-li was brought within the scope of practical politics by the creation of the fleet. The policy is precisely that of Peter the Great, only the method differs somewhat

¹ Sir G. Clarke, *Russia's Sea Power*.

² *Ibid.* p. 133.

with the changed circumstances of the times. It was necessary for Peter from his inland state to conquer a seaboard on the Baltic and the Euxine, and, when there established, to build up a navy. Vladivostock, the Russian station in the Far East, has for years been supported from the sea ; and when the German descent upon the province of Shantung was accomplished, and the practical dismemberment of China began, it was the possession of a powerful fleet which enabled the advisers of the Tsar to antedate their plans by the occupation of Ta-lien-wan and Port Arthur. In 1702-3, Peter's troops overran Ingria and Livonia, and captured Noteburg and Nyen, enabling a fleet to be built in the Gulf of Finland. In 1898 the navy of Nicholas II, built in Europe, established itself in the ports of the Liaotong peninsula, and land forces are prepared to move to the support of the navy.

CHAPTER VIII.

FRONTIERS IN THEIR RELATION TO MILITARY OPERATIONS.

AT first sight it seems fortunate for a State when its boundaries are so determined by nature that it is secluded from other lands, and cannot be invaded except at great risks across stormy seas, wide and rapid rivers, or rugged mountains. A glance at the maps of Europe and Asia will suffice to illustrate the difference between natural and artificial frontiers. Hindustan is cut off from Central Asia by the Himalayas, the Pamirs, and the Hindu Kush Mountains. Its northern portion from Kashmir to Assam is manifestly closed to armies. To pass through Tibet from the north would be difficult; to follow up this enterprise by treading the few and narrow paths over which Everest, Dwalagiri, and Kinchinjunga are eternal sentries would appal the boldest of the lieutenants of Timurlane. The masses of mountains which extend from Beluchistan by Afghanistan and Kafiristan to the Karakoram Pass would also seem an area impossible for the march of large armies, and accordingly many writers ridicule the notion of an invasion of our Indian Empire from the north-west. The Pyrenees are a feeble barrier, whether their height, width or length, or the severity of

their climate be considered as compared with the northern buttresses of India, yet they make an admirable natural obstacle between France and Spain, which has kept these two nations apart ever since the fall of that marvellous military and geographical unit, the Roman Empire. The supposed natural boundary of France in the east and north-east has never—except for a brief space in Napoleon's time—coincided with the actual frontier. Indeed, when the idea was propounded by the founders of the Republic, one and indivisible, in 1795, it was treated with the utmost ridicule by Burke in some of his ablest disquisitions. The Alps, the Jura, and the Rhine from Basle downward to its mouth would form an excellent frontier. But, even before 1870, the Bavarian Palatinate and Rhenish Prussia and Belgium excluded France from two-thirds of the Rhine, and since 1870 no fragment of French territory impinges on the fine river which in the days of Julius Caesar marked the limits of the Gauls and the Teutons. In Italy the various Alps and the Dinaric range, which would give Italy the Eastern coast of the Adriatic north of Montenegro, suggest themselves as natural boundaries, but in point of fact such a frontier, though in the main continuous with the Alps from the Cottian to the Julian, has many flaws, and is artificial in several sections. Race, language, and historical accidents have fixed the boundaries of nations as much as geographical conditions. When the limits of the Turkish Empire, as was the case a century ago, extended from the Adriatic to the Black Sea along the Save, down the Danube from Eszek by Belgrade to Orsova, and thence along the southern slopes of the Carpathians to the Pruth, it had a fine strategic frontier covering a series of inner

entrenchments which secured Constantinople for ages. Nor was the southern portion of European Turkey in a worse case. From the Morea to the Bosphorus every strategic issue or decisive point was in their hands, and the hardy fanatics of the north-west of Asia, while the Porte had command of the seas and straits of eastern Europe, could swarm to the aid of their brethren, whether fiercely resisting Christian chivalry on the Drave, or driving back the Muscovites from Trajan's Wall to the Dniester. In 1854 these were foiled on the Danube, and in 1877 they were well-nigh ruined between that river and the Balkan Mountains. The Danube between its source and the Iron Gates at Orsova is not now the boundary of any State.

The Romans extended their frontier over the Alps so as to fix a barrier between their civilisation and the dreaded barbarians of the North. The Emperors stopped short, and in consequence they were ruined; they should have pressed on Germany, shattered the Goths in their own homes, and planted Roman laws and legions on the Oder and Elbe, as well as by the banks of the Moselle and the Thames. Nations must advance or die. The ruler who tries to fix a boundary to Empire is generally engaged in a futile enterprise, and if perchance he succeeds, the result is quick decay. A little more perseverance under Tiberius and Hadrian would probably have reduced all Germany¹, but they hearkened to the fatal caution of Augustus, *concilium coercendi intra terminos imperii*.

No mountain frontiers, therefore, have prevented invasion or for long stopped the tide of war, but they

¹ Bryce, *Holy Roman Empire*, p. 12.

are of great strategic utility, inasmuch as, much more than rivers, they limit the avenues by which the invader can advance to his object, and they perplex him more than does a river, because transverse roads from defile to defile must always be less common than roads along the banks of rivers from bridge to bridge. Moreover they are valuable to screen the movements of a strategist from his opponent, and thereby they favour surprise. For example, in 1813, when Napoleon was coping with the heroes of the German War of Liberation, he moved eastward from the Elbe to the Oder, north of the mountains of Bohemia. But while he was only thinking of danger from Blucher in his front, the Austrians moved rapidly into Bohemia, and towards the passes leading into Saxony, threatening his line of communications with Dresden. He was thus obliged to counter-march with rapidity, and was only just in time to save Dresden.

The dominion of the house of Austria would seem to be enclosed with a mighty and impenetrable natural frontier by means of the Transylvanian Alps and the Carpathians with their Galician *glacis*, the mountains of Bosnia and the Julian, Carnic, and Tyrolese Alps, the Vorarlberg and the hilly curtain of the Salz and Inn valleys, the Böhmer Wald, Erzgebirge, Riesengebirge and Sudeten range. But the valley of the Danube and its numerous affluents open up passages to Vienna from the Rhine on the one side and the Balkan peninsula on the other, while Prussian armies have had no difficulty in traversing Bohemia and Moravia from secondary bases in Saxony and Silesia. Many an invading force has poured into the rich and prosperous valleys and plains of Hungary to revel in their wealth of wine and grain, horses and

oxen. The roads from Cracow and Lemberg, Kronstadt and Belgrade, are marked with the sites of many a battle from the days of Attila to Hunniades, and from Prince Eugene to Diebitsch many a national and religious controversy was referred to the die of war near Prague and Königgrätz, and in the environs of Brünn, Olmütz, Komorn, and Mohacs. Napoleon used the road from Ulm by Ratisbon, and from Augsburg by Munich in 1805 and 1809. Even Bosnia is not safe, inasmuch as the mountaineers of Montenegro are close at hand, and being well used to warfare for centuries on rugged slopes and on the sides of deep and gloomy ravines, could seriously hamper Austria in a war with Russia. Nature therefore has here been assisted by a series of forts connected together by a new road practicable for artillery and convoys.

That men and not mountains determine the fate of nations is further proved by the fact that long-continued warfare has prevailed in most mountainous countries. Our frequent wars north of the line from Kabul to Attock and west of the Indus are examples. More instructive still were the campaigns of St Cyr and Suchet in Catalonia. The word "Pyrenees" is inscribed on the colours of many a British regiment, but few of our soldiers have any notion of the brilliant efforts and desperate energy of both British and French in the end of July and beginning of August, 1813, to which the word refers. Marshal Soult's efforts to force Wellington's army from Pampeluna and San Sebastian were very able, but he was driven back after a week's fighting, in which he lost 15,000 men.

Switzerland was the scene of very clever mountain

warfare in the days of the great de Rohan. In his campaign against the Imperialists in 1635 he was ordered to conquer the Valtelline with 15,000 men. He began operations by forcing the Duke of Lorraine, who had passed the Rhine at Brisach, to evacuate Alsace. He secretly crossed the Rhine near Basle, and after a march of twelve days appeared before Coire, to the great joy of the Grisons. At first his opponents had the better of him, but, by a clever counter-march which brought him to the heights of Cassiano, he surprised and routed the enemy, seized the Valtelline, and retained it after four battles against the generals of the Emperor. In the following year he traversed and seized the three valleys of the Milanese. Massena and Lecourbe conducted a striking series of operations against the Austrians and Russians in the heart of the Swiss mountains, between the Limmat and the upper Rhine, in 1799. Massena having occupied the line of the Thur, the Archduke Charles passed the Rhine at Stein and another corps passed it at Feldkirch. Massena wished to prevent their union but was obliged to retire to Zurich, where he fought a great battle for three days. He then moved to the left bank of the Limmat and occupied the heights of Albis, his right on the Lake of Zurich, his left near the confluence of the Aar, the Limmat, and the Reuss. He remained three months on the defensive, while Lecourbe executed a variety of movements which are a model of mountain warfare. He nevertheless was obliged to leave the Engadine and fall back to the St Gothard. In September Massena took the offensive, repassed the Limmat, and drove back the Austrians. Meanwhile Suwarrow forced the St Gothard from Italy

so as to join the Austrians. He arrived at Altdorf, but his allies were beaten and he was boldly faced by Lecourbe, who thus forced him to pass the Alps of Glarus over a by-path encumbered with snow. After the loss of most of his guns and baggage he reached Germany in safety with the remnant of his army.

By mountain warfare is not meant the mere attack or defence of a mountain pass, such as we read of in the Tyrolean insurrection of 1809; but the attack and defence of a whole mountain country, comprehending perhaps a line of eighty or a hundred miles. Here almost all the elements of interest of war are combined; the highest exercise of skill in the general in the planning of his operations; the greatest forethought and energy in the officers and soldiers in overcoming or turning to account the natural difficulties of the ground. In such warfare, a general must bear constantly in mind the whole anatomy of the mountains which he is defending or attacking; the geographical distance of the several valleys and passes from each other, their facilities of lateral communication, their exact bearings and windings, as well as the details of their natural features and resources. Wellington ascertained many of these points by personal observation, spending hours in the saddle to this end. A general must also conceive the disposition of his enemy's army, its strength at each particular point, and the facilities of massing a large force at any one point in a given time. Bonaparte studied all the operations of Berwick and Maillebois before venturing into the Apennines. For a blow struck with effect at any one spot is felt along the whole line, and the strongest positions are sometimes necessarily abandoned without

firing a shot, merely because a point has been carried at the distance of thirty or forty miles from them, by which the enemy may penetrate within their limits or threaten their rear¹. And surely the moving forty, fifty, or seventy thousand men with such precision that, marching from many different quarters they may all be brought together at a given hour on a given spot, as was the case at the Zadora in 1813, is a very magnificent combination if we consider how many points must be embraced at once in the mind in order to its conception, and how many more are essential to its successful execution².

The celebrated "*Ne Plus Ultra* lines" stretched from Namur on the Sambre and Meuse to the coast of Picardy. The object was to keep the Allied Forces beyond the interior lines of fortresses which covered the frontier on the side of Arras and Cambray. From the left they ran along the marshy banks of the Canche, supported by the posts of Montreuil, Hesdin, and Frévent, and in front were the fortresses of Dunkirk, Gravelines, Calais, and St Omer. The Canche was connected with the Gy by redans; the Gy and Scarpe were checked by dams causing inundations. A canal of communication was opened from the Scarpe to the marshes of the Sanzet near L'Ecluse; there were forts at Aubigny, Pallue, and Aubanchoil; a fortress at Bouchain and a *tête-du-pont* at Denain. The course of the Scheldt was thus covered to Valenciennes, while further entrenchments to the Sambre were supported by Quesnoy and Landrecies. Maubeuge and

¹ Thus Beaulieu in 1796 had to retire from the Boccheta Pass when his subordinate was beaten at Montenotte.

² See Arnold, *Lectures on History*, Chap. IV.

Charleroi completed the defence of the Sambre as far as Namur.

Some frontiers are neither mountains nor rivers, but mere arbitrary delimitations, sometimes across plains, in other cases, as in Canada, across every variety of geographical accidents. Between New Brunswick and Maine the treaty frontier, while obtruding this latter State into the eastern part of the Dominion, has not facilitated the strategy of the United States, because the district between the frontier and the St Lawrence could easily be turned into a good imitation of the lines of Torres Vedras. It is true that the Canadian Pacific Railway from Halifax to Montreal passes through Maine, and that this is a serious strategic flaw, but it is not fatal, inasmuch as the Inter-Colonial Railway from Moncton to Quebec runs altogether through Canadian territories on the right bank of the St Lawrence. From Montreal westward to the head of Lake Superior the boundary is water, on which, if the old treaty be not torn up from sentimental reasons, the British have a right to keep a superior naval force. From Lake Superior to Vancouver Island the boundary is a parallel of latitude, in great part over a vast plain rich in cereals and cattle, and partly over the auriferous mountains and beautiful valleys of British Columbia, whose rivers teem with fish. There is no physical or artificial obstacle on either side which could stop a raid against the property and railway-lines of either belligerent for a thousand miles. The boundary between the United States and Mexico is also quite artificial, and though the country contiguous thereto is full of awful natural phenomena—wildernesses, the “llano estacado,” wild gorges, the

tremendous cañons of the Colorado, the dismal banks of the Rio Grande, and the Valley of Death—yet none of these is of strategic importance. The troops of the United States in 1846 and 1847 had little difficulty in marching to the capital of Mexico and winning Texas, but this campaign was admirably organized and ably conducted.

The mere geometrical formation of a frontier may be of the utmost strategic significance. It may be re-entering as against an enemy whose base is far away; or it may be re-entering as against a belligerent whose base is within the angle.

In 1800 Moreau's base was from the Lake of Constance by Basle to Strasburg. The Austrians under Kray, acting concurrently with their fellow-countrymen under Melas in Italy, proposed to invade France between Strasburg and Basle, their line of communication being from the Black Forest to Vienna. Moreau, by advancing his right from Schaffhausen, compelled Kray to form front to flank, beat him at Engen and Mooskirchen, and compelled him to retreat to Ulm. When the defensive base is with the re-entering angle or double re-entrant occupied by the offensive there is no strategic base. Thus in 1862, the Federals had command of the sea in the Chesapeake Reach at the mouths of the James and Potomac, they were also at Fredericksburg, Manassas Junction, Harper's Ferry, and Franklin, yet they did not in any case succeed in driving the divisions of the Confederates from Richmond; in so far as they were successful at all they drove the Confederates towards Richmond¹. A frontier, part of which has an oblique

¹ See map, p. 27.

direction with regard to the line connecting the defensive with its base, offers advantages to the invader. Such was the line from Sierck on the Moselle to the mouth of the Lauter in 1870, by selecting which the Germans threatened McMahon's line of retreat from Woerth to Nancy, and Bazaine's and Frossard's line back to Metz.

The frontiers of Prussia, Austria, and Russia are most interesting from a strategic point of view. Leaving out any considerations of mountains and rivers it will be obvious that Austria-Hungary projects eastward between Roumania and Russian Poland, and therefore threatens the right flank of every Russian movement from the Pruth towards Buda Pesth through Roumania or Servia or over the Danube into Bulgaria. Russia felt this severely in 1854. Again, east Prussia threatens the right flank of any Russian movement through Poland towards Berlin. Further, let us suppose that Austria-Hungary and Germany were allied against the Russian, the latter, when moving against either foe, would be flanked and in great danger from both; accordingly every possible strategic precaution is taken by all three Powers and there are great works and places of arms at Königsberg, Dantzic, Thorn, and Posen in Prussia; Brest-Litovski, Warsaw, Novogeorgovitch and Ivangorod in Poland; and Cracow and Przemysl in Galicia.

Switzerland projects from the French frontier so as to make a salient as between South Germany, Austria, and Italy. In the event of a war between France and the Triple Alliance the possession of Switzerland by either side would have decisive results. If the Swiss joined the Triple Alliance and the French invaded

northern Italy by the western Riviera or Mt Cenis, or by a disembarkation at Genoa, and moved on Milan or Venice or Verona, their left would be threatened throughout. If the Swiss joined the French, suppose an invasion of France through the Gap of Burgundy were proposed, or even by way of Brisach or Strasburg, the left of the Germans would be threatened, and a combination of the Austrians and the Germans by way of the road south of the Danube would be difficult, while any movement of the former through the Black Forest to the Rhine would be perilous. Switzerland therefore is interesting not only for the illustration of mountain fighting in its own territory, but because of the relation between its river valleys and passes and European strategy at large. But the Swiss are taking precautions to prevent their country being made an avenue for contending armies; nor are they likely to allow any philosophy of the rights of man to beguile them again into giving ambitious republicans a military foothold within their borders, as was the case with the French in 1799.

The frontier of Italy has serious defects. On the west not only has she the territory up to the watershed, but the heads of the valleys of the French slope are in her hands. On the north it is clear that many of the issues are commanded by other States. A zigzag frontier, however mountainous, is defective as exposing flanks, but a zigzag frontier when the upper reaches of the river avenues are in command of an opponent is very unsatisfactory, and in mountainous countries rivers and valleys and roads are almost synonymous. On the north the upper valleys of most of the tributaries of

the Po and of the Adige are not Italian. The Swiss canton of Ticino and the Austrian Tyrol obtrude into Lombardy. In the north-east also Austria still commands all the mountain issues.

All the roads leading from Italy into Switzerland converge in the longitudinal *couloir* from the Rhône to the Rhine, from which there are only three exits—that of the Rhône closed at the defile of St Maurice, that of the Rhine closed at the defile of Sargans by the old fort of Luziensteig, where new works are to be constructed, and that of the Reuss commanded by the new works of St Gothard. St Maurice is a strategic point of the very first consequence; it is one of the best positions for a fortress in Europe, and properly fortified and occupied by a brigade is practically impregnable, and absolutely closes the valley of the Rhône near Sion. So important is this defile, the key of the Valais, that the occupation of the Simplon and of the Great St Bernard would only be a temporary success for the Italians, unless they seized it by a *coup de main*. In consequence of a series of bends or zigzags similar to those on the northern Italian frontier, the river Main cannot be regarded as a line of defence, and cannot protect Bavaria from attacks from the north. The South Germans in 1866 made a great mistake in using the middle and lower Main. Had they moved towards Saxony by the upper Main, as did Napoleon in 1806, and concentrated in Thuringia, they would have seriously hampered the Prussians in their operations against Austria.

The present Franco-German frontier has towards France the form of a great *tenaille*, the exact meaning of which is the re-entering angle at the point whence

issue the Meurthe and the Saar, behind which are the vast works of Strasburg. The southern Vosges strengthen the southern side, while Metz and Diedenhofen cover the extreme right on the northern flank. The extreme left is not very strong by nature, and allowing the French to retain Belfort, however judicious from a political point of view, was a glaring strategic error. But the proximity of Strasburg and Brisach, and the Rhine itself, together with the fortifications of Mulhausen and Altkirch, counteract the weakness of this flank to a considerable degree. On the whole a French movement against this *tenaille* would be very hazardous. In the event of a war between France and Germany, without allies on either side, the front of operation must be the line from Porrentruy to the boundary of Luxembourg. The neutral territories of Belgium, Luxembourg, and Switzerland protect the extreme flanks of the belligerents and would bar any wide strategic turning movement. The French attack must at first be a front attack. The best line of advance would be Paris—Mannheim, but it would be almost suicidal to push the advance far, having regard to the fortresses on each flank and the difficulties of the hilly country between the Moselle, the Saar, and the Rhine, with numerous retarding positions. Moreover, these once surmounted, in front would be the Rhine itself, the banks of which, assailed in the past by a thousand battles, are to-day the lines of two strategic railways and are commanded by powerful fortresses which must be taken or masked by many corps. On the assumption of a French initiative the new frontier resulting from the loss of Alsace and Lorraine, quite apart from the relative strength or efficiency of the contending armies,

has turned the balance to the distinct disadvantage of France.

The timidity or the prudence of statesmen entrusted with the care of the frontiers of nations or of distant provinces has often induced them to construct boundaries or inner defences in the shape of walls, series of bastions, curtains, and lines. Hadrian, Trajan, and Antoninus were celebrated builders of walls in many parts of Europe from the shores of the Black Sea to the banks of the Clyde, but the ability of the engineers and expenses of the exchequer were in vain. If long reaches of sea, broad rivers, and intricate mountain districts cannot protect a state, neither can a lengthy wall. A few good fortresses in determined hands on rivers near the frontier would be much better. The lines of Torres Vedras covering Lisbon will be described in another place; they effected their purpose completely, and their construction was justified by the topography of the area of operations, and by the fact that each flank was rendered invulnerable by sea power. But the long lines of works constructed in Belgium in 1705, from near Namur to Antwerp, were carried by Marlborough. This ought to have been a lesson to other French generals, but Marshal Villars, as has already been stated, constructed even more formidable works for the defence of France in 1710, which he said would cause Marlborough to reach his *ne plus ultra*. The folly of such works, however, was again proved by the ease with which Marlborough got through them. This kind of artificial frontier is useless, and has always been forced when skilfully attacked.

The military incompetence of the Chinese has been

recently illustrated in a striking fashion by the passive nature of their strategy, which relies on anything rather than powerful, mobile, and well-equipped armies. They prefer any measures, however laborious and costly, rather than a good fight in the open field. Their Great Wall is a massive and marvellous record of incompetence. It is carried over the highest ranges and across rocky barriers with defiles in which small bands of brave men could easily stop multitudes without any artificial works. With its windings, and double and triple lines at certain points, it is 2000 miles long—the distance from the Rhine to the Ural Mountains, and from the Straits of Gibraltar to the Crimea. Yet it could never keep out invaders, even if maintained as carefully as a Parisian fort. It is not only the most prodigious example of strategic ineptitude but it is also a sad specimen of official negligence and corruption. As Captain Younghusband tells us, the inner branch north of Peking, where it is “under the eye of the Emperor, is a magnificent structure built of immense blocks of granite. It is some 40 or 50 feet in height, and wide enough at the top to drive two carriages abreast, winding up and down the steep hillside over the summit and across the valleys far away into the distance. But where I passed it next, scarcely one hundred miles from Peking, it had dwindled down to a miserable mud wall, not 20 feet in height, of no thickness, and with gaps in it from a quarter to half a mile in width. At the gateway were massive doors and a lofty gate, guns pointing down the road, and a detachment of soldiers to collect the customs dues, while twenty yards to the right was a gap in the walls wide enough for a brigade in line to pass through.” Yet the

Chinese Empire was most richly endowed with all the conditions of national greatness. Its decay is only the most appalling illustration of the axiom that no nation can be great that does not make the art of war its principal study. Excluding the Pamir, a kind of neutral land "where three empires meet," the central plateau of Asia where rise its mightiest rivers is under Chinese rule, and its boundaries are clearly defined on the north and north-west by Asiatic Russia, on the south and south-west by British India, on the south-east by Indo-China, and on the east by the Pacific. Inside these boundaries there are 4,500,000 square miles and 350,000,000 people. The agricultural and mineral resources of all kinds are practically inexhaustible, and yet the whole nation is a prey either to a small neighbouring state like Japan, or to distant European countries like Germany and England. And why? Because the military profession was despised by the adherents of a humanitarian philosophy, and for no other reason. The Chinese make very good soldiers when properly drilled and led by warriors like General Gordon.

In fine, with regard to boundaries, we find that certain frontiers give military chances to brave and enterprising armies, and that no frontier, however massive, or however strengthened by nature and art, can prevent a luxurious, inert, or corrupt race from ruin.

Readers who wish to study at large the use of practical geography in the determination of frontiers, and the vast losses to our wealth and prestige which have resulted from official ignorance of it, should read Colonel Sir T. Holdich's paper published in the *Geographical Journal* for May, 1899. Our rulers have been

led astray in every continent by the neglect of the study of modern geography in our schools and colleges. Mercantile and railway routes have been spoiled by superficial or careless surveys, and intricate international complications have arisen which even a limited knowledge of geography would have prevented. Sir Thomas Holdich says:—"This period in our history has been well defined as the boundary-making era. Whether we turn to Europe, Asia, Africa, or America, such an endless vista of political geography arises before us, such a vast area of new land and sea to be explored and developed, such a vision of great burdens for the white man to take up in far-off regions, dim and indefinite as yet; that it can surely be only by the grace of Providence that we shall finally emerge from the struggle to rearrange the world's partitioning without some deadly contest with others whose interests in these new arrangements are hardly less than our own. And I may perhaps be permitted to say, that just as the Providence of battles usually favours the biggest battalions, so it is likely that the widest geographical knowledge will prove the best safeguard against misunderstanding, and will at once dispose of such false estimates of the value of portions of the world's surface here and there as have occasionally brought England perilously close to the dividing-line between peace and war. By geographical knowledge I do not mean simply that knowledge of the earth's surface which we gain by surveying it. I mean also a knowledge of those ordinary laws of nature which decide the configuration of mountains and the flow of rivers, where certain influences must inevitably lead to certain conditions. I mean, also, such knowledge of the technical

application of geographical terms as will prevent misunderstanding about the meaning of words and phrases.

"Of all sources of international irritation, boundaries seem to be the most prolific; and of all countries in the world, England has probably suffered the most from them. To refer to modern history only, it was the Sistan arbitration which first turned Sher Ali's heart against us and originated the Afghan war of 1879-80; it was a boundary which brought England and Russia face to face in Turkestan in 1884, and so nearly forced us into war; it was a boundary (nothing less) that started Umra Khan on his quest for Chitral; it was a boundary which set all the north-west frontier in a blaze lately. And yet all this boundary-making has been in the interests of peace alone. The want of these boundaries would more surely have led to wider-spread, more disastrous war than the making of them, and it seems of all things most extraordinary that efforts honestly made in the interests of peace and good government should not be possible, without bringing great countries to the verge of blows."

In arranging frontiers a wrong definition may lead to irritating disputes, if not to actual war. To quote Sir T. Holdich again:—"Supposing it were a matter of determining a boundary between India and Tibet. Standing back some 100 miles from the plains of India, in the centre of the Himalayan mountains, is a magnificent central watershed, or water-parting, which stretches from Kashmir to northern Assam. The greatest snow-peaks and glaciers of the world are piled on to the summits of this vast crystalline axis of the Himalaya. Could anything be better than this magnificent array of unapproachable

snow and ice to serve as the unmistakable barrier between two vast Asiatic countries? Nothing could be better, provided we do not define it as the watershed between India and Tibet. From its southern flanks the first beginnings of many mighty rivers flow southward to the plains of India; from its northern buttresses and spurs many a torrent pours northward, and turns equally to the plains of India. The Indus and the Brahmaputra drain the northern slopes of the central Himalaya, enclosing the great mountain system between them, whilst the largest affluent of the Ganges cuts it right in two.

"What is true of the Himalaya is true of nearly all the great mountain systems in the world, *i.e.* the watershed of the system is beyond, and apart from, the highest mountain chain. This is true also, in a smaller sense, of smaller ranges, so as to make it essentially necessary to distinguish between a central chain of peaks and the water-divide of the system as a whole."

CHAPTER IX.

FORTIFICATION AS RELATED TO MILITARY GEOGRAPHY.

A WRITER on military history is fortunate indeed if he can escape all the controversies which perplex both the theorists and the practical engineers who discuss the various systems of fortification. Though tactical principles and human nature are practically the same in all ages, the only result of their study when applied either to the fashion or the position of fortresses seems to be a perfect riot of disagreement and confusion. Many would turn a land fortress into an imitation of a ship, and apply cupolas and all kinds of machinery such as are common in monster ironclads to subterranean forts.

✓ General Brialmont is an ardent advocate of *batteries cuirassées*, but the Germans look at his schemes askance; and Colonel G. Sydenham Clarke ridicules all elaborate systems, and entertains a profound contempt for the whole art of permanent fortifications. Our own permanent land defences he holds in small esteem. "Our modern works both at home and abroad might have been designed by clever cadets, quick to recognise the niceties of technical artifice, but unable to grasp the broader aspects of the science of war." An indifferent

and badly handled force cannot be made safe by money and art. "The best fortification, judged by results, has been that improvised by stress of circumstances, unspoiled by the debasing influence of the text-book, and not demoralised by the technical possibilities opened out by large expenditure."

The question of the utility or otherwise of the vast expenditure on French fortresses since 1870 is most interesting and instructive. Other nations would do well to hesitate before embarking on a similar career of sinking capital in bricks and mortar. Pierron believes that most of them are utterly useless, if not dangerous. One of the great inconveniences of every fortress is that it shuts up behind walls a certain number of men, say from one to twenty thousand, who might be much better employed with the armies in the field. The French fortresses would altogether shut up no fewer than 600,000 men, or more than the total of both French and German armies at Gravelotte. So, in 1814, a large portion of Napoleon's best troops were wasted in German fortresses, when they would have been invaluable in Champagne. Worse still, many authorities contend that the sites of the new works have been very badly chosen, and some writers explain this by the fact that the new system of defence has been entrusted to Engineer officers. Of course the task of constructing works rightly appertains to these officers, but they are in no sense superior to others in ability to select suitable sites. Indeed they are less capable, as their education causes them to look at things from the point of view of the art of fortification only, rather than from that of the art of strategy.

Another vital question on which authorities differ is the fortification of capitals and leading towns of a State. Pierron contends that these should never be fortified, that their investment is disastrous from every point of view, military, political, social, and commercial. He would immediately destroy the forts of Paris and Lyons, and in their stead erect defences in places of trifling wealth and small political importance, which if on the flank of the enemy's line of advance to a capital or great commercial depôt, would protect it as effectively as a girdle of forts. On the other hand, most writers, including Marmont and Hamley, insist on the fortification of the centres of national wealth and culture, and schemes for the fortification of London itself are frequent in military societies, but a complete investment of London would be a stupendous enterprise. Since the erection of the new works at Paris, the number of army corps required to isolate it as effectually as was the case in 1870, would be enormous.

It is an incontestable fact that no kind of fortress, wheresoever placed, however strongly manned, however expensively constructed, and however numerous its garrison, has ever given permanent security to a State—has seldom indeed given it even temporary protection. Moreover, a fortress once invested is certain to fall, unless a relieving field-army can beat the besiegers away. We read in the history of one generation of the "virgin" fortress of Ingoldstadt or of Metz, but when we open the records of another generation, we find that its pride has bitten the dust.

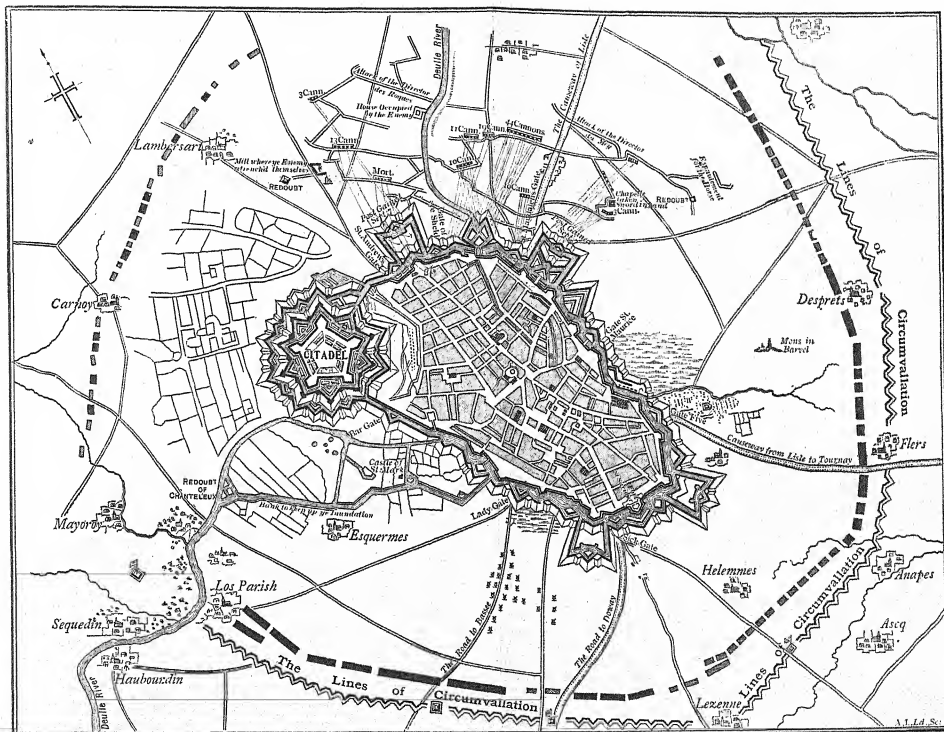
Belgium bristled with fortresses in the time of Marlborough, but sometimes a dozen surrendered after

a decisive battle like Ramillies, and the illustrious Englishman was able to pass the French frontier, to take Lille after one of the most celebrated sieges in history, and threaten Paris itself. After the battles of Jena and Auerstädt, Napoleon crossed the Elbe and entered Berlin irrespective of Magdeburg and Dresden. The French frontiers north and east were in 1814 well covered with works illustrating the genius of Vauban; nevertheless, the only hope of France was Napoleon's army on the Seine and Marne. The allies from the Rhine and Belgium did not waste their time in sieges; when once Napoleon's energy in the field was exhausted, Paris was entered and peace dictated. So, after Waterloo, the northern fortresses of France scarcely delayed the march of Wellington and Blucher on Paris. The Germans won the battle of Weissenburg on the frontier August 4th, 1870; they were around Paris September 19th, a distance of 250 miles, in spite of the fact that the French were in occupation of the vast places of Strasburg and Metz, and many an intervening fort. These are cases in which a country was traversed by an enemy as he pleased, although many fortresses were still intact and strongly garrisoned. It is true that Plevna hampered the Russians, and the works of Richmond and Petersburg delayed the Federals for considerable periods, producing a decisive effect on the war, but both were certain to fall in due time if no field-army came to their aid. They fell at last; their defenders, in each case numerous, became prisoners, and the tide of conquest rolled on.

There are, however, some cases in which fortresses, well constructed and with moderate garrisons, give

security to this extent—that till they are taken the enemy's further advance is impossible. This is when the avenues into a country are few, perhaps one or two main roads only. If a strong place with a resolute commander and a well-found garrison covers each of the roads, the invader cannot advance till he takes the fortress. Such were Ciudad Rodrigo on the road from Almeida to Salamanca, Badajoz on the Guadiana, and San Sebastian and Pampeluna on the Pyrenean frontier. Wellington was stopped in 1811 by the two former, but he regularly besieged, breached, and stormed them, in spite of the most splendid resistance, in 1812. San Sebastian and Pampeluna blocked his way from the battle-field of Vitoria into France in 1813. He therefore breached and stormed the former, and blockaded the latter, before daring to wend his way towards the Adour. For lack of assistance from outside, therefore, these most valuable places, all defended *à outrance*, were captured. Marmont and Soult had armies quite strong enough to beat off the besiegers in 1812, but they were surprised and had no time to act effectively. Soult made bold efforts to save Pampeluna and San Sebastian, but was routed in the passes of the Pyrenees.

In some cases a very small fort in a well-chosen position may puzzle a general of genius. Bard blocked Napoleon's way as he descended from the Great St Bernard towards the plain of Lombardy, but he easily evaded its guns by a devious path and simple stratagems. There are certain portions of territory in many states which, if resistance to the bitter end be resolved upon, might be defended for an indefinite period against almost any force. Such is the peninsula of which Constanti-



Univ. Press, Cambridge.

SIEGE OF LILLE BY MARLBOROUGH AND EUGENE IN 1708.

To face p. 186.

United Service Institution
of India.

nople is the apex. Lines were constructed in 1877 north of Constantinople from sea to sea which brought the Russians to a standstill, especially as the fleets of Admirals Hornby and Hobart Pasha commanded the sea on every side. The Russians were soon hard pressed by want of food and by disease. To go on was impossible; to march homeward over ruined Roumelia and Bulgaria across the carcass-strewn passes of the Balkans to their bridge on the Danube, and thence by Roumania would have meant annihilation. No wonder that they welcomed an armistice and food by sea; otherwise their case would have been far worse than was that of the astute Massena when, after long observation of the fortified Lisbon peninsula, he sullenly began his retreat from the first of the lines of Torres Vedras through devastated Portugal back to the Agueda and Salamanca in 1811. The position of Buyuk-Tchekmedje is as remarkable in natural military strength as is Constantinople in geographical situation. The peninsula (between the Black Sea and the Sea of Marmora) is here but twenty miles wide, and twelve miles of this space are occupied by broad lakes extending up inland from either shore. Of the remaining eight miles at least half is filled with impassable or difficult swamps, and the rest with almost impenetrable thickets. Behind this line of lakes, swamps, marshes, and thickets runs a continuous ridge from sea to sea, from 400 to 700 feet in height, and on this ridge the Turks had in process of construction not less than thirty large redoubts, besides outlying trenches and rifle-pits, the greater part of them concentrated in the centre of the line, and disposed irregularly, according to the nature of the ground, in

three lines. These redoubts were only half finished, but still they afforded complete protection for infantry, they would have mounted 150 siege-guns and as many more field-guns, and their proper garrison would have been 60,000 to 75,000 men.

With such a garrison, since the flanks of the line rested on the sea, and could not be turned or invested, these lines might fairly be called impregnable. The force actually in them consisted of about 30,000 men, made up from the wrecks of Suliman's army, which had been brought by sea from Enos; of Achmed Eyoub's division, which had retreated from Adrianople; and of some reserves which had been at Constantinople during the war, the whole being under the command of Ghazi Moukta Pasha, who had lately returned from Asia, where he had lost his whole army. Yet such was the natural strength of this position, taking into account the shortness of the line, which allowed the men to be within easy supporting distance of each other, that 30,000 men here constituted a more formidable adversary than 60,000 men in the line of works held by Osman at Plevna. But the armistice gave these away with a stroke of the pen to the Russians.

Wellington's campaigns of 1810 and 1811 were a model of defensive warfare, the result of most careful study of the strategic geography of the theatre of operations, and have received the warmest commendations of French writers; even as Massena and Ney, though repulsed, got a certificate from their great opponent to the effect that he was never free from care and danger when they were near. The fortifications on the frontier, Ciudad Rodrigo and Almeida, could not save Portugal,

nor could the British army fight in the open field a series of combats against the forces of the "spoiled child of victory," superior in everything except courage, and not deficient in that. So Wellington cautiously retired from the frontier, leaving Craufurd with a rear guard to delay the invader. When he came near the Mondego he halted at Busaco, and received and repulsed the fierce attacks of his pursuer. Having won a battle, he continued his retreat. Massena followed. But in the previous winter, with infinite pains and complete secrecy, the celebrated lines of Torres Vedras had been constructed, and accordingly, when Massena fancied that he was driving the British into their ships, he found that his own march was stopped by strong redoubts and formidable abattis. As at this time the British had uncontested command of the sea, there being no other European "fleet in being," both flanks were absolutely secure, and the defenders could be abundantly supplied by our fleet; while they had all the resources, mechanical and otherwise, of a large and flourishing capital city at their disposal. Moreover, the Baragueda spur of the Monte Junto came down in a perpendicular direction close to the works of the first line, and was a parallel obstacle with no transverse passages, which narrowed the French sphere of attack on the first line to fourteen miles on the Tagus side; nor did they dare to divide their forces by approaching the lines on both sides of the spur. Manifestly in this case, from a broad point of view, strategic geography was with Wellington.

As the lines of Torres Vedras are the finest and most successful example of field work of this kind in history, and indeed have had no rival since the days

of Trajan, since they utterly ruined the enterprises of several of the best warriors of our century, it may be well, ignoring all technical details, to set forth their topographical conditions as described by Jones and Napier. A glance at the map will show that both flanks were covered, on the one hand by the sea and on the other by the Tagus, and could be protected by our navy.

They consisted of three distinct lines of defence.

The first, about thirty miles north of Lisbon, extending from Alhandra on the Tagus to the mouth of the Zizandro on the sea-coast, and following the inflections of the hills, was twenty-nine miles long.

The second, traced at a distance varying from six to ten miles in rear of the first, stretched from Quintella on the Tagus to the mouth of the S. Lourenço, being twenty-four miles in length.

The third, intended to cover a forced embarkation, extended from Paço d'Arcos on the Tagus to the tower of Junquera on the coast. Here an outward line, constructed on an opening of three thousand yards, enclosed an entrenched camp, the latter being designed to cover an embarkation with fewer troops if such an operation should be delayed by bad weather.

Of these stupendous lines, the second, whether for strength or importance, was the principal, the others were appendages, the third being a mere place of refuge.

Five roads practicable for guns pierced the first line of defence; two at Torres Vedras, two at Sobral, one at Alhandra; but as two of these united again at the Cabeça, there were only four points of passage through the second line.

Hence the aim of all the works was to bar these roads and strengthen the favourable fighting-positions between them, without impeding the movements of the army. The loss of the first line, therefore, would not have been injurious, save in reputation, because the retreat was secure upon the second and stronger line; moreover the guns of the first line were all of inferior calibre, mounted on common truck carriages, immovable, and useless to the enemy. To occupy fifty miles of fortification, to man one hundred and fifty forts, and to work six hundred guns required many men, but numbers were not wanting. A great fleet in the Tagus, a superb body of marines sent out from England, the civic guards of Lisbon, the Portuguese heavy artillery corps, the militia and ordnance of Estremadura, furnished a powerful reserve to the regular army. The native gunners and the militia supplied all the garrisons of the forts on the second, and most of those on the first line; the British marines occupied the third line; the navy manned the gunboats on the river, and aided in various ways the operations in the field.

Near Aruda a loose stone wall, sixteen feet thick and forty feet high, was raised; across the great valley of Aruda a double line of abattis was drawn; not, as usual, of the limbs of trees, but of full-grown oaks and chestnuts, dug up with all their roots and branches, dragged by main force for several hundred yards, and then reset and crossed so that no human strength could break through. Breast-works, at convenient distances to defend this line of trees, were also cast up; and along the summits of the mountain, for a space of nearly three miles, including the salient points, other stone

walls six feet high by four in thickness, with banquettes, were constructed.

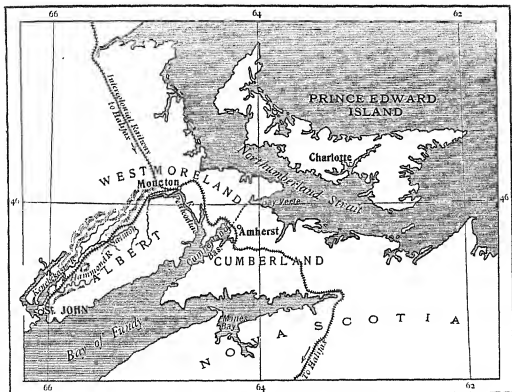
The success of the British at Torres Vedras misled other generals, and the Russians tried a similar structure at Drissa in 1812, which was a complete failure. But Soult's defensive works in the south-west of France in 1813 were like the British lines inverted, the apex being Bayonne and the base a line from St Jean Pied de Port to the mouth of the Bidassoa. Inside this base the Nivelle was strongly protected, so as to make its passage a serious undertaking, and the Nive was a parallel obstacle to the British advance, across which Soult manœuvred very ably against each British wing alternately. Bayonne formed a very useful *entrepôt*, the investment of which was hampered by the Adour. The value of Soult's precautions is proved by the fact that whereas the battles of the Pyrenees were over by August 2nd, 1813, Bayonne was not invested till January 14th, 1814. It had not fallen when Napoleon abdicated; indeed an unusually successful sortie took place April 14th, some days after that event. There can be no doubt that Soult's plans for France were inspired by recollections of the British defence of Portugal.

References to the "Lines" are frequent in all works on strategic geography. American strategists set great store on them when considering plans of defence and military topography, especially when land is supported by sea power. The defence of Canada has recently occupied a considerable share of attention on both sides of the great lakes. Let us suppose a United States force rapidly concentrating in Maine with the intention of invading the eastern provinces, beginning with New

Brunswick. It is the opinion of Captain Wagner, of the United States Army—a good authority—that it would soon find itself face to face with a transatlantic Torres Vedras. The main force of the British would doubtless retreat behind the Petitcodiac River¹, where it would find a position of remarkable strength. With a front of less than 15 miles, the army could rest its right flank on Northumberland Sound and its left on the Petitcodiac, a great part of its front covered by a small river, and a railroad running along the rear of the position. The flanks could not be turned, the navy could deliver a flanking fire along the lines, reinforcements could be speedily sent from one part of the line to another, and supply from the sea and by rail from Nova Scotia would be sure and easy. Unless this territory presents disadvantages not hinted at by any ordinary map, it would be a position not one whit inferior to the Lines of Torres Vedras; for while there would be no Monte Junto to divide the assailant's front, the position is scarcely more than half as long as Wellington's famous lines, the navy (from the nature of the position and the increased power of its ordnance) could lend a greater degree of assistance than it was able to afford the Iron Duke, and the railroad would give advantages not dreamed of 80 years ago in Portugal. St John would be connected with the lines by about 120 miles of waterway, by means of which its garrison could be withdrawn to the lines of Petitcodiac, should the New Brunswick metropolis prove untenable. Should the freezing of the river deprive the line of the support of the navy, and thus expose the flank, a position of almost equal strength could be taken

¹ See sketch-map.

up 30 miles to the rear, where the army would form on about the same front as before, its left resting on Cumberland Basin, its right on Bay Verte. On the left is a high hill, occupied in colonial times by the French fort Beauséjour, while a great portion of the front is covered by marshes. In fact, the absence of the railway in rear



ENVIRONS OF THE PETITCODIAC RIVER.

of, and parallel to, the lines is the only point in which this position is inferior to the one on the Petitcodiac; while the marshes covering its front would make it much stronger as a purely defensive position.

In the late wars Cuba offered admirable opportunities for guerrilla warfare—better than Galicia, the Basque provinces, and Catalonia afforded the mother country

in Napoleonic days. Gomez and Maceo recalled to memory the exploits of Mina and Porlier, and Lacy and O'Donnell, and a singular feature of the two great Cuban wars against Spain, 1868—1878, and 1895—1898, was that the regular troops of the latter adopted the tactics of their adversaries, only that they supplemented a petty *partidas* warfare by antiquated and utterly futile systems of lines and forts. The Cubans never committed themselves to an action on a large scale, much less to a decisive conflict; and the Spaniards, though they put 200,000 regulars and 60,000 volunteers in the field as against some 40,000 to 60,000 insurgents, never realised the necessity of opening up roads into the enemy's country, and following up the enemy to his lairs, though they had plenty of examples in the fashion in which Suchet, Soult, and Reille acted in their own country.

✓ The centre of Cuba is traversed by a mountain range, broken at intervals and of an average height of 2,200 feet. The hills are wooded, and the valleys full of forests and jungles in which long grass abounds. After a skirmish the insurgents retired into these recesses, and from ambuscades therein surprised hostile forces on their marches. The Spanish system at the opening of a campaign was to convey a force by land or sea to a point near which the insurgents were supposed to lurk, then drawing up the force in narrow columns, to cut a pathway into the forest. If the insurgents were met a few shots were fired on each side; then the troops retired or the rebels made off to some new fastness.

Meanwhile, death from disease was raging among the Regulars. In the 1868—1878 war 75,000 died. On the

other hand, it was impossible to starve the insurgents in what Christopher Columbus described as "the most beautiful land that the sun ever shone upon, or the eye of man ever beheld." Yams, sweet-potatoes, and bananas abounded, and a crop yields food in plenty two months after being planted. If the Spanish system of entrenchments or *trochas* right across the island was based on an imitation of the lines of Torres Vedras, they entirely misconceived the ideas of the British engineers in Portugal.

The original *trocha* or trench crosses the island between the provinces of Puerto Principe and Santa Clara, where the country has but little elevation above the sea-level; its length was 50 miles. It was flanked by swamps and was strengthened at intervals with antiquated forts. This trocha was constructed during the insurrection of 1868 to 1878, and Campos rebuilt it in 1895. It was barely finished when both Gomez and Maceo crossed it, and carried the war into Santa Clara. Campos then constructed a second trocha, nearer to his capital, that is, further west, between Las Cruces and Las Lajas, and, this proving equally ineffectual, a third, between Matacezan and La Broa. This latter was only 28 miles long, and was crossed by the railway from Havana to Batabano, on which ironclad freight-cars, pierced with loop-holes for rifle-fire, accompanied each train. Gomez and Maceo, however, tore up part of the track.

When Weyler succeeded Campos he built an additional trocha 25 miles west of Havana, between Mariel and Majana, expecting to shut Maceo up in Pinar del Rio. This consisted firstly of a clearing in the forest,

100 to 800 yards wide; secondly, of a barbed-wire fence, four feet high, behind which were stationed the sentinels; thirdly, forty yards in rear, of a trench, three feet wide and four deep, with a breastwork of logs; and fourthly, fifty yards further back, of a chain of log-houses, each containing a garrison of 100 men.

Another new trocha, built also by Weyler, extended from Jucaro to Moron, in the province of Puerto Principe. This had no ditch, but, in its stead, a wall six feet high, composed of felled trees, while a military railway extended the whole length of the cleared space. Its forts were of a threefold kind—large ones, half a mile apart, blockhouses midway between these, and small huts for guards of five men each, there being three of these huts to every quarter-mile interval. Entrance to the forts was obtainable only by ladders, which could be lifted and withdrawn from within; and bombs were distributed at intervals along the lines.

In addition to the forts along the various trochas, and unconnected with them, or, indeed, with any other system of military defence, the Spaniards had an enormous number of small forts all over the island, not less than two thousand, and possibly even more. They proved an additional heavy drain on Spain's resources in men, and we have it on the authority of Consul Lee that the trochas, though costing a large amount of money and absorbing a considerable force of men for their defence, proved quite useless and were in the end practically abandoned.

Spain had absolute possession of the cities, fortified towns, and forts. With the exception of these, that is, in the country at large, the Cubans were masters.

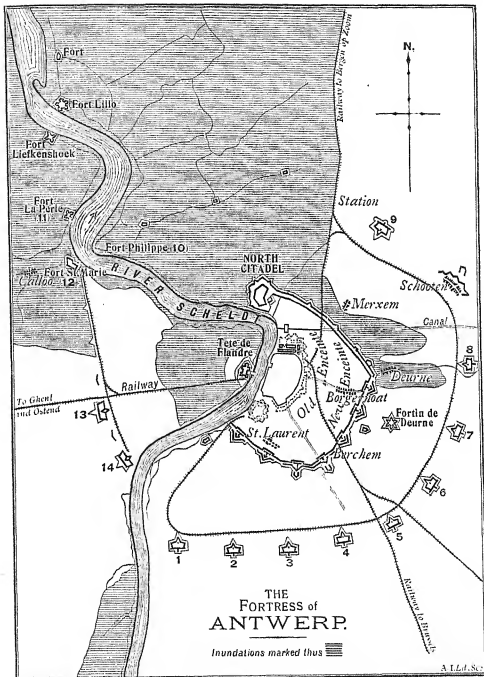
On both sides the workmanship was wretched ; on the part of the Spaniards so much so that the insurgents often ventured quite near to the forts and trochas. The Spaniards rarely left their fortified positions. If they did, they returned in time for dinner, or, in any case, before nightfall. Their system of defences was good enough in its way, but as it was unconnected with any offensive measures, it might as well have been non-existent, for any difference it made in the progress or ultimate results of the war.

The increased range of modern artillery has profoundly modified the situation of fortresses, so much so that the outlying forts must be located further and further from the town or citadel to be defended. Many sites which to old engineers seemed admirably adapted for fortresses are now of no use, and the places erected thereon at a large expense by previous generations are being dismantled. A similar fate has long since overtaken their predecessors, and the old medieval and 16th and 17th century works have been transformed into boulevards. For the same reason it was found in many cases during the Franco-German war that it would be waste of time to go through the tedious process of a siege, and that the various engineering devices could be ignored and a bombardment directed not on the walls, which were supposed to protect the houses, but on the houses themselves. Thus Péronne, Thionville, and Mézières, after a lamentable destruction of property, were obliged to surrender in a few days. The Commandants took pity on the inhabitants. This was against the policy of Faidherbe, who would have held the towns as long as the troops could man the ramparts, irrespective

of the sufferings of the people at large, the blame of which he would lay on the assailants.

Admirable sites for fortresses are either hills commanding bridges over which invading armies must pass, or bridges themselves, when no hill is in the neighbourhood. When a river is parallel to the line of advance of an enemy, fortresses protecting the main bridges are most serious obstacles ; they flank his line of march and he must either stop and take them, or detach troops to observe them and thus weaken the army. Thus Napoleon in 1809 was obliged to observe Ulm, Ratisbon, and Passau, as well as Linz and Krems, so that when he came to the island of Lobau and was checked at Aspern and Essling, he was obliged to wait for reinforcements from Italy before making another stroke for victory at Wagram. Had Linz been well fortified, he would have been in a still worse case. Napoleon III. finding that if he advanced from Alessandria on Piacenza he would be exposed to the works of Stradella, changed his line of operations from the south to the north of the Po previous to the battle of Magenta on the Ticino, in 1859.

If several rivers converge, and other circumstances are equally favourable, their points of convergence are admirable sites for a fortress. Metz is at the junction of the Seille and Moselle, and with its outlying forts on the hills was almost impregnable in 1870; it fell to famine and not to assault, and it is still more powerful now. Mayence is on the junction of the Main and the Rhine; Coblenz and Ehrenbreitstein near the confluence of the Moselle, Rhine, and Lahn; Strasburg on the junction of the Ill and the Rhine; Lyons on that of the Rhône and Saône. Every additional stream or river



increases the toils of the besiegers when completing their lines of investment. Namur, on a lofty eminence at the junction of the Sambre and Meuse, was a famous fortress in the days of our William III., and to-day, as restored, is one of the bulwarks of Belgium. In addition to these a student will be interested in observing that nearly all the mighty fortresses on which the States of central and western Europe rely as *entrepôts* and pivots for their large armies are on main roads at the passages of rivers, except of course when they are intended as defences for harbours, and in this case also the fact that a river generally flows past their site into the sea increases their security.

Thus Antwerp has long been regarded as an outlying work of England.

In Russia Kovno is on the Niemen, Bobruisk near the Pinsk marshes is on the Beresina, Goniadz on the Bobra. The Polish Quadrilateral consists of Novo Georgievsk on the confluence of the Narew and the Vistula, Warsaw on the Vistula, Ivangorod at the junction of the Wieprz and the Vistula, and Brest Litovsk at the confluence of the Bug and one of its tributaries.

The Austrian fortresses, Cracow and Przemysl, are on the Vistula and the San respectively. In Germany Königsburg is on the Kurische Haf and river Pregel, Dantzic at the mouth of the Vistula, Thorn on the Vistula, Posen on the Warta, Breslau on the Oder, Cologne and Deutsch on the left and right banks of the Rhine, opposite each other. There are several old forts on the Vistula between Thorn and Dantzic, and on the Rhine are also New Brisach and Germersheim,

both small places. Hamm is near Düsseldorf on the Rhine.

Various rivers start from the Maloggia block in Switzerland. The sources of the Rhine, Rhône, Reuss, and Aar are quite close to each other, the pass of the Gothard (and the railway tunnel) gives the only entry from Italy into their upper valleys, and this is now protected by many forts. The valley of the Rhône itself is protected by St Maurice, and that of the Rhine by a work at Luziensteig near Sargans. Even if driven from their outer entrenchments the Swiss would find a kind of natural inner entrenchment on the Thur and the Glatt, and could detain an enemy coming from the north or east for a long time on the position of the Limmat with the right pivoted on the Lake of Zurich, and the left at Brugg near the confluents of the Aar, the Limmat, and the Reuss. In this position Massena made a brilliant resistance against the Austrians when the French cause seemed lost in Switzerland, in 1799, but it must be admitted that Massena was dogged and determined to a rare degree.

One of the most celebrated river-fortresses in the world, and one of the best situated, is the present capital of Servia, Belgrade, which is placed at the confluence of the Save, a fine navigable river, and the Danube. As a commanding position in the debatable land between Christendom and Islam it was frequently occupied and reoccupied by both sides. Tremendous battles were fought in its neighbourhood. An island, formed where the two rivers meet, is called the "Island of War." It was one of the dépôts of Suleyman the Magnificent, whose military enterprise and knowledge were far in

advance of any European of his time. The dwellers by the bank of the Save, perpetual champions of the Christian faith, had special privileges and were organized especially for war up to 1878. As the great military road of the southern Morava led to Belgrade, and as this was the Ottoman line towards Vienna, the fortress was named by the Turks "The Gates of the Holy War." Among the heroes who stood for its possession against them were John Hunyady in the 15th century and Prince Eugene in the commencement of the 18th. It was not till 1867 that the Turks handed over Belgrade to Servia.

The old Austrian Quadrilateral in south-east Italy was an admirable adaptation of the art of defence to geographical situations. The course of the Mincio from the mountains to the Po is short, on it are Peschiera and Mantua; the Adige before flowing into Italy gives an avenue into the heart of the Tyrol. The road from Milan to Vienna must needs cross these rivers before reaching Udine, and having traversed the Col de Tarvis, the Drave, and the Semmering Pass, attains the old capital of the Holy Roman Empire and of modern Austria-Hungary. It is perfectly obvious that the fortresses of Peschiera and Mantua on the Mincio, and of Verona and Legnago on the Adige, existing in such a circumscribed space, absolutely closed all the avenues of invasion of Austrian territory. Mantua in 1796 to 1797, as long as relieving armies frequently appeared on the scene, tried the energies of Bonaparte to the utmost. Napoleon III. did not test the Quadrilateral at all; and in 1866 the Archduke Albrecht tossed the Italian army away with contempt. But the Prussians after their

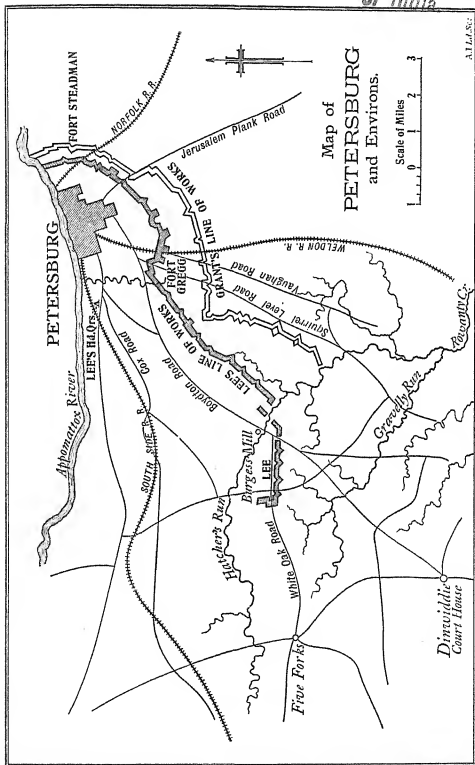
victory at Sadowa rewarded their Italian allies by compelling the Austrians to evacuate Italy.

The Turkish Quadrilateral before the Treaty of Berlin in 1878 consisted of Rustchuk and Silistria on the Danube, and Shumla and Varna. These, with the double ramparts of the Danube and the Balkans, gave security to Constantinople as long as Turkey had a field army ably handled: indeed, the garrison of Silistria commanded by two British officers stopped the Russians in 1854. This was one of the causes which induced the allies to embark at Varna for Eupatoria in the Crimea, but these fortresses did not seriously affect the Russian movements in 1877. Plevna, an improvised fortress in the hands of Osman Pacha, was of more value, and detained the main Russian force before its detached forts for nearly five months. The Russians dared not cross the defiles of the Balkans with 40,000 Turks within striking distance of their only line of communication, the road to the Simnitsa—Sistova bridge. But once Todleben completed the investment (November 8th) the fate of Osman's army was certain. When supplies ran short he would try a sortie which, like all sorties under such circumstances, must necessarily fail. He was defeated with great slaughter, and surrendered December 10, 1877. Had Osman evacuated Plevna before the investment was complete he might have renewed the Plevna experiment with even greater success at some other position, at any rate another field army would have joined Suleiman's between the Balkans and Constantinople.

When dealing with improvised fortifications it may be as well to refer to remarkable American fortresses built after war had commenced, and extended and

strengthened under the fire of besiegers as was Sebastopol. Richmond on the James river in Virginia, Vicksburg on the left bank of the Mississippi, in the State of Mississippi, and Atlanta near the Chattahoochee in Georgia, are remarkable as objects of striking strategic enterprises, and defensive and offensive siege tactics of rare ability and determination. Though in each case the works sprang into existence with the exigencies of the day, in no case could the besiegers carry them. Each fortress fell only when it was cut off from connection with the outer world and no field army was available for its relief. One of the works of Vicksburg, Fort Fisher, suffered one of the heaviest bombardments possible, for Admiral Porter poured into it from his thirty-three vessels on the Mississippi one hundred and fifteen shells a minute on December 24th, 1862. Next day a similar fire was opened, but when the Federal troops made an assault it was found that all this tremendous artillery expenditure had been wasted, and the garrison easily repulsed the assailants. During this siege the ✓ Federals proposed to divert the river into a new bed so as to leave Vicksburg high and dry, but the Mississippi was too strong for Grant's engineers and swept away their work. On July 4th, 1863, Pemberton, the Commandant, who had neither food nor ammunition, surrendered after a defence of 213 days, and, as President Lincoln said, "the Mississippi ran unvexed to the sea."

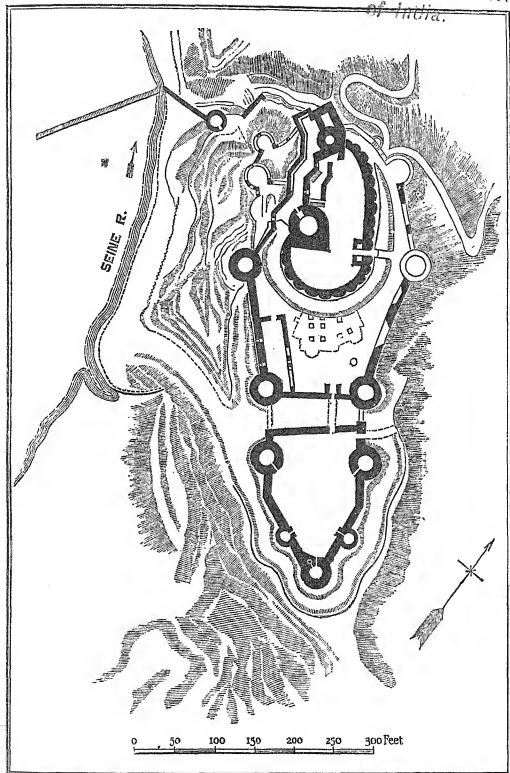
✓ Richmond and Petersburg held out from June 15th, 1864, till April 21st, 1865, every assault being repulsed with terrible slaughter. Grant continually compelled Lee to stretch his weak line by moving westward. As he moved his investing line westward so Lee was obliged



to enlarge his works. This could not go on indefinitely, and when Sheridan joined hands with Grant from the Shenandoah Valley, which he had devastated, Lee was in danger of being cut off from every avenue southward. He then abandoned both places and met with the usual fate of generals who try to break through superior investing forces. He was headed by Sheridan and beaten after a fight of three days' duration at Five Forts, being eventually compelled to surrender at Appomattox Court House April 9th, 1865.

✓ Quebec, the capital of the province of the same name, has a population of 62,000, and is thus the third city in Canada. From a strategic point of view it is the most important place in the Dominion, completely controlling the St Lawrence, to which it can admit friendly vessels, and from which it can bar out all hostile fleets. The history of every war fought on Canadian soil shows that the possession of Quebec is essential to the mastery of Canada. The place is described as "the most picturesque and the most strongly fortified city on the Continent." It was formerly a walled city, but several of the old fortifications have been demolished, and some of the gates have been removed. The chief fortification is the Citadel, which stands on Cape Diamond, 333 feet above the river, and covers an area of forty acres. A large ✓ factory for the fabrication of small-arm cartridges and artillery projectiles is located at Quebec. The harbour of the city is excellent, and its extensive docks are among the best in the world.

A very interesting study would be to trace the history of the fortresses of the basin of the Seine from the Château Gaillard of Richard I. to the stupendous

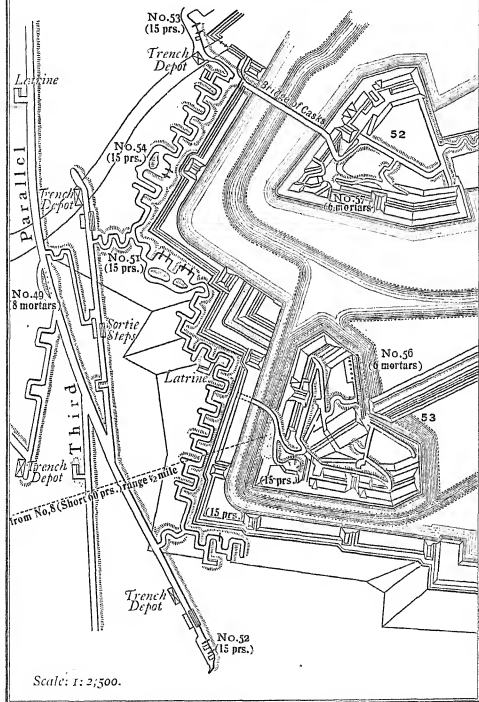


PLAN OF THE CHÂTEAU GAILLARD.

works that now surround Paris. As fortification had reached its highest development under the old system in France in the days of Louis XIV., and as in its newest development of detached forts and enormous entrenched camps it has again reached its maximum in France, it may be well to set forth in a general fashion how that country is now fortified, and how its topographical features might be utilised to give it much greater security at less than half the cost in men and money.

The Archduke Charles, an able writer as well as a brilliant soldier, says, "All that a great country requires is time to develop and organize its resources," and from this point of view great places of arms may be of the greatest utility. A country may be surprised at the beginning of the war and beaten in a few great battles, and if it has no rallying points or centres of supply protected from a rush, and if its capital be open, the enemy might overrun it in all directions with impunity, though it had ample supplies of men and material resources, such as food, arms, and ammunition. Thus Strasburg, though an old-fashioned fortress, resisted Von Werder from August 10th to September 27th, a delay which enabled the French to meet him in force when he arrived on the line Dijon—Besançon. Metz detained fifteen German divisions of infantry and one of independent cavalry from August 19th till October 27th, and thus, as all the other German divisions were around Paris after September 19th, gave the genius of Gambetta full scope to collect together enormous armies under D'Aurelle de Paladines, Faidherbe, Cremer and Garibaldi, which, by the beginning of November, began to show signs of

ATTACK ON ADVANCED LUNETTES. STRASBOURG, 1870.



dangerous activity on the Doubs, the Somme, and the Loire, and drove the Bavarians out of Orléans and defeated them at Coulmiers. Had Bazaine been able to detain the first and second German armies one fortnight longer round Metz the general opinion is that the corps round Paris would have been in a very critical position, and that their third and fourth armies would have abandoned the siege. But when Bazaine gave up his enormous army and the splendid fortress on the Moselle, the invaders forthwith marched three corps towards the Loire, two between the Seine and the Somme, and left one east of Paris, while another bombarded Mezières and other northern towns. Faidherbe was beaten, D'Aurelle de Paladines was beaten, Orléans was recaptured, Chanzy was beaten, and in the east Bourbaki was driven from Besançon through Pontarlier into Switzerland. Of course, when once the relieving armies from the south and north were driven back, the fate of Paris was that of Richmond—every sortie failed, indeed, none had the smallest chance of success, and the city yielded to starvation. January 28th, the bombardment, which had been delayed till January for lack of the siege guns, not having produced the slightest effect on the spirits of the defenders.

The present fortifications of France are stupendous, yet unfortunately, in the opinion of the best experts, in many cases useless from a strategical point of view, and certainly antiquated as against modern shells and guns. Numerous works have been constructed with the object of closing railways against the invader, but this is a waste of men and money. The destruction of tunnels, bridges, and rocky cuttings—such as Villers-

Cotterêts, the bridge over the Oise between Creil and Chantilly, and the bridges and tunnels between Nanteuil and Paris—delayed the Germans much longer than the places of Toul, Soissons, La Fère, and Laon. After the war Germany reduced the number of its small places to a considerable extent, while France increased its *forts d'arrêt*. In 1882 there were in France 147 places or independent forts, and 434 out-works and detached barriers; their mere enumeration occupies thirteen pages of General Pierron's work. The expense of construction and maintenance is a terrible drain on the resources of the State, but the waste of men in garrisons who ought to be with the armies in the field is a far more costly charge, and perchance a fatal injury to the State. In 1880 the *Commission of Defence* laid it down that the various sections of the fortified frontiers would require garrisons as follows:—

From Dunkirk to Meubeuge	58,663
From Rocroi to the Rhône	129,520
From the Rhône to the Col de l'Argentière	26,956
Along the Pyrenees	23,781
On the Ocean Coasts	44,654
On the Mediterranean Coast	35,732
In Places of the Second Line	36,239
At Paris and Lyons	162,649

New places and new forts have since been constructed and the burden proportionally increased.

If a nation will have forts and places, instead of placing them in a cordon *along* the frontier a study of strategic geography would suggest that they should be placed *perpendicular* to the frontier, just as strategy

suggests when possible a flank instead of a front attack. If the Germans invade again, the line of retreat of the French should be south or, if west, towards Orléans, and not towards Paris. The head of the valley of the Saône could serve as a place of refuge if Gray as well as Dijon, Auxerre, and Besançon were fortified. From these places they could issue—as Bourbaki proposed to do in January, 1871—against the flank of the invader, or against his line of communications by Langres or Épinal. The invader could not live between Gray and the Faucilles; he could not attack from the north, nor could he turn the position from the east because of Belfort and the Jura, nor by the west because of the mountains of the Côte d'Or. It is true that the second and seventh German corps were allowed to traverse these with impunity in bad weather in January, 1871, but such fatuity would scarcely recur. From this line the defenders could issue into the valley of the Rhône by Belfort, into that of the Moselle by Épinal, into the valley of the Meuse or the Marne, into that of the Seine by Dijon, or into the basin of the Loire by Chagny, and provisions would be secured by the railways traversing the valleys of the Saône and Rhône, and Switzerland.

Fortresses to protect the passages of rivers are, as we have seen, quite in accordance with strategical principles, and if the Loire passages were fortified, an excellent line of defence which would defy the invader would be from Orléans to Nevers, and from Nevers by Chagny to Besançon; this would cover the greater part of France. Provisions and arms could be procured from both Atlantic and Mediterranean ports, railways are numerous, the forests of Orléans and the Nivernais and Morvan would

mask manœuvres, and close at hand would be the arms-factories and iron-works of St Étienne and Creusot.

The great danger of entrenched camps, as was fully evident in 1870, is that they prove a fatal attraction to field armies which pivot on them. After any check or temporary disaster the troops fall back into them, get shut up, and surrender. Thus Metz entrapped Bazaine, and even the small fortress of Sédan was injurious to MacMahon; he could not have selected a worse position than to fight with his back to its narrow entrances. But the modern French system of fortified regions, consisting of great fortresses linked together by forts is even worse, and "A. G.," a very able French writer on military subjects, ridicules "The Regions"—the line which extends from Toul to Verdun, from Belfort to Épinal, and from Rheims to La Fère.

When a State proposes to invade a neighbour it ought first to organise a solid basis of operations, a zone from which it can raise reinforcements, provisions, and ammunition. To this zone recruits and stores would come from every part of the interior, and from this zone they would be sent after the actual and active army in the field. On the zone there should be some strong *point d'appui*, otherwise it would be liable to raids and enterprises against its flanks, which would for a time at least destroy its utility, and interfere with the efficiency and continuity of the field army.

An advanced work such as Metz on the new German frontier does not meet these requirements, but the line of the Rhine, Strasburg to Cologne, does admirably, and these fortresses are quite up to the requirements

of provident strategy as well as of the most modern theories of fortification.

When the Archduke Charles constructed the works of Ulm, and turned it into a formidable entrenched camp, he little imagined that its advanced position would make it and a large army the prey of Napoleon, and cause the German Empire to afford the astonished world for the first time the curious spectacle of the capitulation of myriads of men *en bloc* without a fight. It is true that Ulm retarded Moreau for six weeks in 1800, but Mack put 80,000 men into it in 1805, hundreds of miles away from his Russian ally. Napoleon from the Main at Wurtzburg and Mayence, and the Rhine between Mayence and Strasburg, closed every road from Ulm to Bohemia, Vienna, and the Tyrol, destroyed or captured every part of Mack's force that tried to break out of the fortress north or south of the Danube, and the unfortunate General, threatened with the direst penalties by his conqueror, surrendered 30,000 men, leaving Napoleon to march unopposed to Vienna.

It would be interesting to dwell on the most famous sieges in European history, and see how far they relate directly to strategic geography, but they would not throw any further light on the subject of the value of fortresses, the dangers of elaborate and far-reaching systems of frontier defences, and of over-multiplication of forts and entrenched camps.

A word or two, however, may be said upon the siege of Paris, September 19th, 1870, till January 28th, 1871, which was certainly the most stupendous operation of the kind ever undertaken. Not to speak of its admirably constructed enceinte, each portion of which was linked to

the other by rail, the line of its outer forts was about 33 English miles long, so that the Germans had an inner investing line of 50 miles in length, and an outer line, where the head-quarters of the various corps were placed, of about 70 miles. For this line they had only 240,000 men, and they were liable at any moment to have to cope with sorties by the Commandant, Trochu, and assaults from some of Gambetta's new levies. Trochu had 400,000 men under arms, of whom at least 150,000 were capable of being made into good soldiers, and they had ample supplies of weapons. It turned out that they were possessed of much greater quantities of food than was supposed, and, strange to say, the most frivolous population of any city in the world soon resigned themselves with cheerful fortitude to bear not only an absolute lack of amusements, but ultimately the utmost distress for lack of food. To carry the city by assault was quite impossible, to break through the forts was equally so. The city was too big for an ordinary bombardment, and owing to the solidity of the splendidly built houses the people suffered little from the fire of even the heaviest guns when these could be brought up, which was not till January. The bombardment of a given section of the city could not diminish the resolution of the other sections, and a park of artillery sufficiently large for a general bombardment could neither be brought from Germany nor supplied with ammunition if on the field. Indeed the resources of the German commissariat were severely tasked to feed their soldiers. At last the rations of the French were practically exhausted, so much so that the immediate réprovisioning of Paris was one of the clauses of the Capitulation,

and London alone sent food forthwith to the value of £80,000. The question as to whether the failure of the sorties to break the German investing line of less than 5000 men to a mile was due to lack of genius on the part of Trochu, and caution or cowardice on the part of his officers and men, or whether success was impossible by reason of the impossibility of effective deployment or of flank attacks has been warmly discussed. At any rate the Germans beat back every rush from the gigantic fortress with comparative ease, nor was there any effective strategic coöperation between the vast garrison and the new armies on the Somme and the Loire.

The art of field fortifications as understood by antagonists such as we have to deal with in Asia and Africa, and as applied against them, is interesting, for it illustrates the advantages derived from the most simple defence-works in such wars. Behind their rude stone-works or *sungas* the Ghilzais or Pathans will remain to meet our soldiers at close quarters. The stockades of Cachar, of Perak, and of Burmah, again and again afforded stubborn resistance. The trenches of Tel-el-Kebir on the other hand, constructed on scientific principles, and of formidable profile, prove how serious an obstacle earthworks present to storming columns advancing in compact formation. But it is the defence-works devised by ourselves to meet the exigencies of irregular warfare that are the most significant in pointing the moral. Zaribas—mere enclosures of thorny abattis—proved in the Soudan a sufficient protection against the onslaught of the Arabs. At Rorke's Drift a mere parapet improvised at a moment of desperate emergency out of mealie-bags and biscuit-boxes, enabled the handful of

defenders to keep at bay swarms of Zulus flushed with the success of Isandhlwana. Waggon-laagers have become a recognised mode of defence in South African warfare. A simple breastwork sufficed to secure Fort Battye during the Afghan night attack. The post of Dubrai, near Kandahar, protected by a $4\frac{1}{2}$ foot wall, held out till the ammunition failed. Haybands proved a most useful obstacle around Suakin, and mines were used with good effect. In the Naga hills a form of stake called "panjee," consisting of split bamboos barbed to prevent removal from the ground, was found a serious impediment in the attacks around Konoma.

A small fortress held to the bitter end may determine the fate of a State; and the premature surrender of one by even two days may ruin a campaign. In 1566 the insignificant fortress of Sziget, in Hungary, commanded by Zringi, detained the enormous force of the Sultan Solyman the Magnificent for four weeks. Its small garrison of 3000 men caused the Turks very considerable losses; Solyman himself died before its walls, and thus an irreparable loss was inflicted upon the Ottoman Empire. On the other hand the fortress of Soissons on the Aisne was surrendered on demand in 1814 to Bulow and Winzingerode, and they were thus enabled to unite with Blucher, who would otherwise have been utterly ruined. This surrender was fatal to Napoleon's brilliant strategy.

Every commandant of a fortress therefore should hold out as long as he can. He should "eat his boots," as Massena said at Genoa in 1800. On this point Napoleon issued very clear instructions in 1811, and again in 1812. After many other elaborate details, he

said:—"Every commandant should remember that to him is entrusted one of the bulwarks of our empire, or at least one of the *points d'appui* of our army, and one day's delay in regard to its surrender may be of the greatest possible consequence for the defence of the State and the safety of the army. In consequence he should turn a deaf ear to all reports and rumours as to what takes place in other quarters, and tenaciously hold on to his own post."

Fortifications then may be field works, or *fortifications passagères* to strengthen the resisting power of a military position, or a position which is useful either for a fight or for the movements of armies. In some modern wars, especially in the American Civil War, field works were as much a part of the ordinary transactions of armies as the use of rifles and cannons. In Virginia and Georgia they were erected at every big combat. But they are made entirely for the temporary protection of the field army, and cease to have any value when it leaves them either to advance or to retreat. Permanent fortifications are constructed during peace, and as they are equally important whether the army is close to them or at a distance, they must be so strong as to effectively protect both their garrisons—which should be as small as possible—and the stores which the field army may require. But though they are permanent and should facilitate the movements of an army, the latter should only make temporary and occasional use of them. They should be used for movements, and never for a battle: to fight under their cover is to turn them from their true purpose to a false purpose, and to risk instead of to protect the field army. Field works are compatible with mobility;

works constructed in advance and permanent, if used for fighting purposes imply immobility. But any army without mobility has no strategic power and is forthwith reduced to the defensive pure and simple, which means ruin in time.

To use permanent fortresses as if they were *fortifications passagères* is to subordinate strategy to fortification, whereas fortification should be the handmaid of strategy. Napoleon called them "oases in the desert." Their provisions diminish the necessity for long-drawn convoys—in itself no small benefit. When situated on rivers they give the offensive army a safe *débouché* across towards the enemy; if the offensive fail, they cover a retreat and check the pursuit. But the retreating army should be content to refit as quickly as possible in the fortress and then hurry away. If it stay too long it will be invested, and probably imprisoned unless another army is at hand for relief. Places such as Thorn, Posen, or Strasburg may serve as *points d'appui* for the flanks of an army, whether it advances or retreats, but here again the army must not be tied to the fortress.

Lord Roberts says in regard to the North-Western frontier of India:—"I recorded a strong opinion in opposition to the proposals of the Defence Committee, which were in favour of the construction of a large magazine at Peshawar, and extensive entrenched works at the mouth of the Khyber. I pointed out the extreme danger of a position communication with which could be cut off, and which could be more or less easily turned, for it was clear to me that, until we had succeeded in inducing the border tribes to be on friendly terms with us, and to believe that their interests were

identical with ours, the Peshawar valley would become untenable should any general disturbance take place; and that, instead of entrenchments close to the Khyber Pass, we required a position upon which the garrisons of Peshawar and Nowshera could fall back and await the arrival of reinforcements. For this position I selected a spot on the right bank of the Kabul river, between Khairabad and the Indus; it commanded the passage of the latter river, and could easily be strengthened by defensive works outside the old fort of Attock¹.

At one time there was a plan in vogue of covering the whole frontier with forts just as the French frontier is covered with works, but even in the event of money being available to build these, a sufficient number of men would not be available to man them.

Holland's defensive works are an elaborate system of inundation. In their arrangements for national defence the Dutch have adopted a system similar to that which, until lately, held good in Belgium. Amsterdam is in any future war to be the Antwerp of Holland. So long, it is thought, as the Dutch tricolour floats over the turrets of the capital, the cause of independence will not be lost. It does not necessarily follow from this, as a small minority of Dutchmen recommend, that only the capital would be defended in the event of a conflict with one of the great Powers; but it seems to be generally understood that the defensive operations of the army will be confined to what has been called "the fortress of Holland," a chain of forts circling North and South Holland and Utrecht. Amsterdam may be regarded as the citadel of this immense fortress,

¹ *Forty-one Years in India*, Vol. II. p. 406.

the point upon which the defenders would rally for a final stand, after they had been driven from Yssel and the Eem-Grebbe positions, the principal towns on which are strongly garrisoned. The rivers along all the positions would be held by specially constructed gunboats, mounting heavy guns, and armoured against the heaviest field ordnance. The "fortress of Holland" is, even during peace, almost surrounded by water. The short land side extends from Haarlem by Utrecht and Gorinchem to Altena, and is called, somewhat paradoxically at first sight, the "New Dutch Waterline." Since the retreat of the French under the King and Turenne in 1672 by reason of the inundations, the Dutch have placed implicit confidence in their power of flooding an enemy out of their territory. *Het water is Nederlands bondgenoot* is no doubt as true in the 19th as in the 16th century; but until very recently too little attention was given to the altered conditions of warfare. A few years ago, Amsterdam might almost have been occupied before the necessary arrangements for opening the floodgates were completed. Much has since been done to insure a prompt and effective inundation. The art of producing floods is a subject of careful study in Holland. A single act of carelessness might cause the Dutch to be engulfed by their own inundation, or convert a province into an irreclaimable swamp. A general and promiscuous cutting of the dykes is, for instance, out of the question. The extent of the flood would be determined by floodgates, embankments, and canals especially constructed for the purpose. The inundations would not only be limited in length and breadth, but in depth. The water,

wherever possible, would be too deep for wading and too shallow for navigation. If it were necessary to adopt one of these alternatives, it is generally considered in Holland that a navigable flood would be more effectual in checking the enemy than one sufficiently shallow for wading. A considerable time must necessarily elapse before a sufficient number of boats and rafts could be procured for the transport of an army, while the Dutch themselves would possess, as in 1672, a considerable number of the so-called *uitleggers* by which the operations of the enemy's craft might be seriously impeded. The ideal inundation for defensive purposes would be about three miles broad and from 1 foot to 18 inches deep, with a soft clayey bottom, intersected by canals and ditches. A flood of this kind, despite its apparent shallowness, is practically impassable on foot, even for individuals, for if they are not stopped by the mud, they would be met by the network of watercourses, which are necessarily invisible. Moreover, the damp cold mists engendered by such an inundation would be but little felt by the acclimatised Dutch soldier, who is better able to endure cold than heat, while they would be exceedingly dangerous to almost any other troops, who would probably suffer more from sickness than from injuries in action. Owing to the varying height of the land, it would be necessary, in order to preserve uniformity of depth, to divide the inundated district into basins by means of transverse dykes, with openings for the in and outflow of water. The inundations in the "fortress of Holland" would be effected simultaneously from the North Sea, the Zuyder Zee, and the various rivers running through

the kingdom from east to west. In the event of a severe frost every available means would be taken to break the ice ; but it is admitted that the defensive value of the floods would in this case be seriously diminished¹.

In 1673 Marshal Luxembourg took advantage of the ice to invade Holland, but a sudden thaw compelled him to retire. In 1795 Pichegru's army utilized the ice to overrun the country, and the fleet in the Texel was captured by the French Hussars.

No English writer on strategy surpasses Hamley in clearness, conciseness, and thorough grasp of his subject. A quotation from his work therefore, though his view on entrenched camps does not find favour with some other authors, may fitly close this chapter. "Fortresses, though without armies they are unavailing, may give to a country defensive power that counterbalances the cost of their construction, armament, and equipment, and the deduction of their garrisons from the active force. And if, besides being impregnable to open assault, they contain within their defences everything necessary to the supply of armies, they may be used as temporary bases or pivots round which an army can operate with vastly increased power and latitude of manœuvring. Their value for this purpose will be immensely increased by forming round them an entrenched camp, that is a continuous line of detached works enclosing space sufficient for the assembling and manœuvring of an army."

Hamley is also in favour of intermediate lines between the frontier and the capital, when the distance between these two is great, and like Marshal Marmont he would also fortify the capital.

¹ See Mr C. L'Estrange in *Navy and Army Illustrated*, September 17th, 1898.

CHAPTER X.

THE PRINCIPAL ROUTES OF INVASION, AND MAIN LINES OF COMMUNICATION.

AN invader who has sufficient force can seldom be prevented from entering mountainous countries whether by the nature of the roads or by fortresses. Thermopylæ proved a trap for the Greeks. Light troops can always be sent round by some side-path or mule-track and they will open up the principal passes, but the tendency of railways and great built roads is to diminish the importance of smaller defiles.

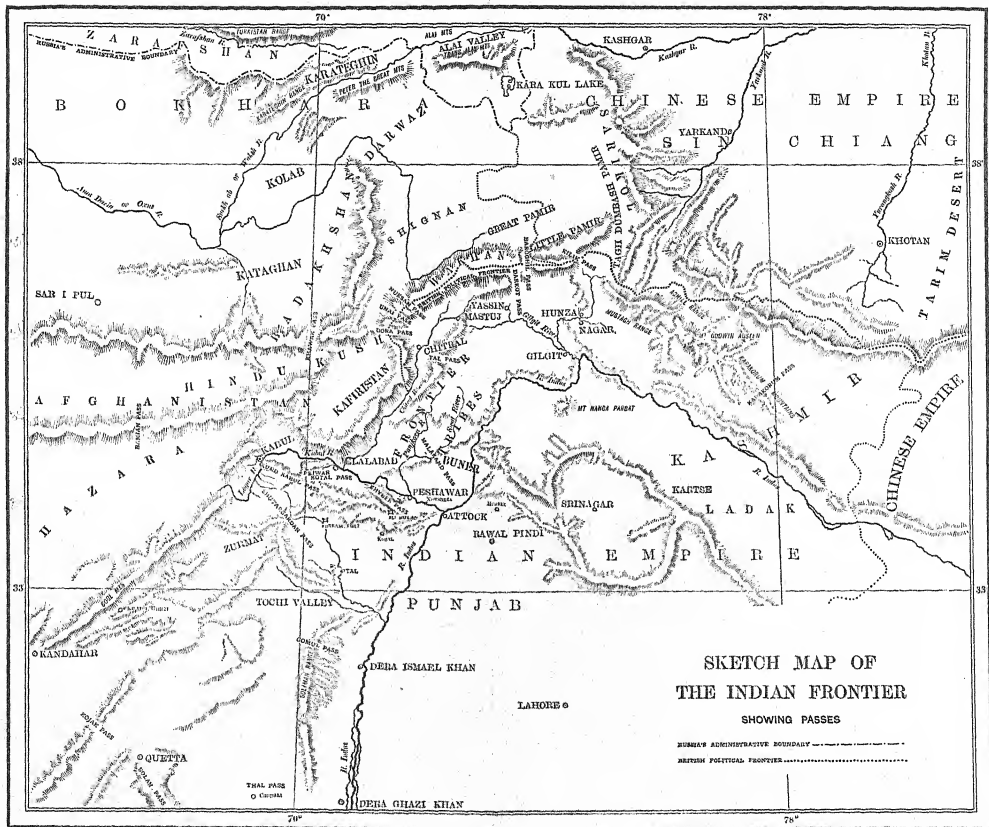
Although few are now used, there are no less than 232 passages on the Franco-Italian frontier, their geographical position being as follows:—

From the Little St Bernard to Mont Genève	76
From Mont Genève to the Col di Tenda	83
On the littoral	73

If an invader pierced some small passes feebly fortified he would soon turn the principal forts, and the defence would fall to pieces. Alessandria, the principal centre of Italian concentration in the north, could easily be turned from the north by a march on Piacenza.

The same remarks apply to access into the north-west frontier of India. The Hindu Kush is crossed not

United Service Institution
of India.



only by the better-known passes as Nuksan, Dora, Alang and Khawak Irak (Bamian), but by many mountain paths practicable in summer. So from Peshawar to Karachi the hills, as Col. Sir T. Holdich says, are pierced by gorges and ravines through which excellent roads could easily be constructed. The same may be said of the Paghman range.

The lines of invasion in which the British are more especially interested are those which lead from central and north-western Asia into our Indian Empire.

Turning first to the Hindu Kush, we find that Alexander, B.C. 329, passed the ranges S. to N. in 17 days, and conquered Central Asia as far as the Caspian. In 327 he passed N. to S. in 10 days. His main invading army marched along the valley of the Kabul, while he led the left wing through the Swat and Buner districts to the Indus.

The cavalry of the Moghuls crossed these mountains in myriads at the beginning of the 13th century. Timurlane's army passed by the Khawak and Tal passes, September 1398, and Baber frequently traversed the range from 1519 to 1526.

Passing southward to the Suleiman range, we find that it has likewise been often penetrated. Mahmud of Ghazni led his hordes across it twelve times, 1001—1027 A.D., by the valley of the Gomul and the Gwalari Pass to Dera Ismail Khan. Mahomed Ghuri crossed nine times by the Khyber, Gwalari, and Bolan, 1179—1195. The army of Jenghiz Khan crossed by the Gwalari Pass at the beginning of the 13th century.

Timurlane's right wing advanced *viâ* Pishin and the Thal and Chotiali passes to Dera Ghazi Khan, a column

moving through the Gomul valley and the Gwalari. He marched by Shutargardan and Peiwar into the valley of the Kuram, his left wing going by the Kabul valley and the Khyber. The lieutenants of Timur even ventured to cross the barriers separating Samarkand from Kashgaria, which seems at first sight a most desperate enterprise for any army.

Baber in 1527 advanced through the Kabul valley and the Khyber.

Nadir Shah in 1740 advanced from Kandahar to Ghazni and Kabul, and reached the Indus by the Kabul valley.

The British in 1839 and in 1878 advanced on Kabul by the Kabul river valley and the Khyber Pass. The disaster to their army in 1841 occurred in the Khurd-Kabul pass.

Transverse routes connect Kabul and Kandahar, and Kabul and Herat.

It is necessary that we should command the Khyber Pass, and link it with the railway system of India. We should be able to occupy Kabul promptly in the event of a Russian march on India. We must be able to defend the Ameer, if loyal to us, in the last resort with a British army corps at Kabul, connected by railway with our base at Peshawar. This is one great argument for our retaining the command of the Khyber Pass.

The recent Tirah expedition was singular in regard to the utter ignorance on the part of the invaders of the topography of their theatre of operations. The total number of animals employed was 29,470 camels and bullocks, and 42,330 other animals, of which the ponies and donkeys were useless. Mules are far better, and it

is false and ruinous economy to employ other animals in mountain warfare. The Jeypore and Gwalior transport trains were far superior to ours.

During this campaign the British penetrated into the recesses of one of the most difficult countries in the world, in regard to which it had been the proud boast of the natives that it had never before been invaded. Their valleys were certainly most rich and prosperous, and their homesteads and farm-yards full of provisions of every description.

A serious difficulty of this country was that it had never been surveyed, and that the scouts had to find out their way as best they could. The course of main streams was merely a matter of conjecture, and the experience of Lockhart's officers gives us a clue as to how barbarians from the Volga and the Danube found their way over the Carpathians and Balkans.

The Sampagha Pass on the south of the Mastura River, and the Arbangha Pass, 7,000 ft. high, on the north of the same river, were much more difficult to climb than any of the passes that any other civilized armies have had to traverse since 1800. The Afridis are the most warlike of mankind. They have good rifles, and they love shooting; they spend their boyhood practising with their rifles, and would give its weight in silver for a good weapon. They had, moreover, some of the best British weapons, and an ample supply of ammunition. Many of them had learned the art of musketry in the British service. So little does he think of the future that the loss of his house, his store of grain, and his fodder is as nothing to the young Afridi, when compared with the present delight of plunder and murder.

He is a master of guerrilla warfare, as fleet of foot as a goat, and can live for days on the grain he carries with him. No necessity, therefore, exists for them to cover a line of communications. This extraordinary mobility enables them to attack from any direction quite unexpectedly, and to disperse and disappear as rapidly as they come. As Captain Shadwell says, when led by Ghazis "or when excited by a fanatical preacher to expect a safe conduct to Paradise in case of death, their daring courage is of the most reckless description." Of all the Afridis, the Zaka Khels were the most desperate and troublesome fighters, and the last to submit; they cut telegraph wires, were persistent in "sniping," attacked convoys, and fired at long range on foraging parties.

Suppose any future treachery on the part of the Afghans; it is necessary that Russia should know, and that the Afghans should know, that we have the power of enforcing loyalty to the solemn engagement made between the latter and ourselves. The operations of General Low and Colonel Kelly for the relief of Chitral in 1895 were most instructive and completely successful, while the defence of Chitral itself was a brilliant affair. The effective of the garrison were only 543, and they stood a siege of seven weeks, and made some good and useful sorties. The dwellers in the mountainous territory are amongst the most martial and daring hillsmen in Asia; they are desperate Mussulman fanatics in addition to being hardy sportsmen, good at polo and all manly exercises.

The defiles were most dangerous—in fact a British detachment under Capt. Ross was cut to pieces at

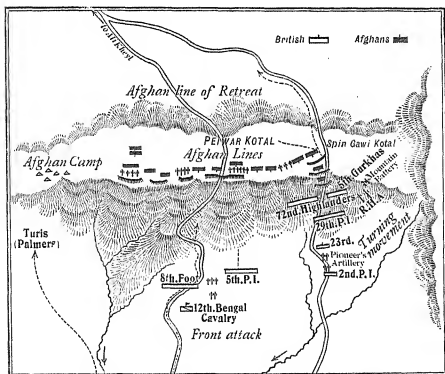


THE UPPER SWAT VALLEY.

Karagh near Buni. Nothing daunted, Kelly marched to Ghizar by the Shundar Pass, 12,000 feet high, and hastened to the beleaguered town, while Sir R. Low with 14,000 men advanced from Peshawar, forcing the Malakand Pass against the intrepid Swatis at an altitude of 3,500 feet. As these were retiring, they were charged by the 11th Bengal Lancers and the Guide Cavalry. Wellington said he did not use his numerous and splendid cavalry at Vitoria because of the nature of the ground, but had Low thought of a *terrain* for cavalry, he would never have defeated the Swatis; indeed the doctrine of suitable ground for cavalry would have prevented the use of this arm in the campaign, for no country could be worse. If the squadrons at the Malakand Pass had adhered to text-book theories as to their *rôle* they would never have wielded either sword or sabre; in fact, as a French author says, "they could not have reached a place fit for the theoretical cavalry manœuvres between the Indus and Siberia." The Swat and the Panjora rivers were held in force by the enemy, but they were driven back and the latter river passed by a bridge of boats. Miankhalai and Dir were occupied, and thence the march to Chitral was easy. But the enemy, weary of their vain efforts against the little fortress and aware of the advance of Kelly and Low, disappeared.

When the Pamir plateau was partitioned between England and Russia, the latter country was allowed in that partition to get somewhat inconveniently near the extreme north-western corner of our frontier. Chitral lies at the base, and in the event of war or trouble with Russia, her scouts would cross her Pamir frontier, and

traversing our piece—for we never keep any establishments in that snowy region—they would at once discover and report what was going on in the upper valleys of the Indus. Now with these movements unchecked, the moral effect on Kashmir and the outlying portions of the dominion would, without doubt, be very bad indeed. Sir Richard Temple says there is a danger lest our



ATTACK ON PEIWAR KOTAL, DECEMBER 2, 1878.

holding of the Khyber Pass should set up the Afridis or keep the war, like fire, still warm. If this has been decided upon, we should spare no pains to assure the Afridis, in common with all the tribes, that their independence under us is absolutely secure.

Near Bannu lies the Kuram valley, and from this valley there are two passes which lead direct to Kabul.

As evidence of the advantage of this route by the Peiwar Kotal Pass, which is now the British boundary, and the Shutargardan, or Camel Neck Pass, which leads straight down to Kabul, Sir R. Temple suggests that opposite Dera Ismail Khan, and opposite the Gomul Pass, a viaduct ought to be constructed, so that we may be able to take an army corps across the river at will, if necessary, because it would be a second string to our bow in the event of anything happening at Kandahar. This, indeed, is a matter of first-rate military importance—how important we should never really know until something had gone wrong with us at Kandahar.

There is a great railway viaduct at Sukkur some 250 miles to the south. Skobelev is reported to have said that, "not for a generation or more to come would Russia be able to advance beyond Herat upon India. But in the meantime by the railway from Merv we are assuming a menacing position towards England, which will keep her occupied in India and prevent her impeding us in other parts of the world," to wit Constantinople. These words are pregnant with meaning. The railways of Russia are, of course, largely extending. There is first of all the Trans-Caspian, which runs from the eastern shores of the Caspian Sea to within striking distance of the Herat frontier. But the Russians propose to make a railway from Merv also, which comes to the same thing practically.

Then from Merv the railway has for some years past extended to Bokhara and Samarkand, and now from Samarkand it has been completed to Tashkend, with a view to an ultimate connection with Balkh, on the Oxus river. Russia has now got her railway extended from

the main trunk line of Siberia, which runs from west to east, and from that trunk line she connects with Orenburg, which is the south-west corner of Siberia. From Orenburg, in the course of a very few years, she will have a railway on to the Sea of Aral, and thence to Khiva, and will thus complete a regular circle by the Trans-Caspian railway to the Caspian Sea.

There are two lines of possible Russian advance to India. One would possibly be from Samarkand or Bokhara to the north of the Oxus near Balkh, on to the Indian Caucasus by the valley of the Oxus to Bamian, and so on to Kabul. This is the first line, and this is the hardest and least probable. The second is from Baku, across the Caspian Sea to Michailovsk, the terminus of the railway on the eastern shore of that sea, then on to Merv, and so to Herat and Kandahar.

Sir R. Temple declares that it is sufficient to hold up one's little finger and a money-bag in any part of India to be able to raise any number of cattle and camels, but recently this phase of the transport question has been attended with difficulties. It is not, however of great importance, because we have railways on to our fighting point. On the other hand, at their southern line the Russians have a march of 370 miles, and at the upper of 700 miles, over a very difficult and desert country.

Inside the mountains Quetta has become a great basis of military operations, which would be of supreme importance in the event of war with Russia. From Quetta there runs a line through Pishin, piercing the Khoja Amram range by the Khoja tunnel. For military strategy, in the event of extreme danger, there is no

more important work in the British Empire than this tunnel, which takes us straight on to the plains that lead to Kandahar. The line is now complete as far as New Chaman, leaving 70 miles to Kandahar to be completed.

If Russia attacks India by the south-western route, which is the most likely one, it is at Kandahar that we should give her battle. In every way this is a valuable military position. The commander of a British army-corps occupying it would have a desert on his left, which could not be turned; he would have a river on his right, which could be turned only with great difficulty; and in his rear would be one of the richest districts on the face of the earth, limited no doubt in area, but boundless in fertility. He could draw his supplies from this, and would have a temporary railway—which could be made in two and a half or three months at the rate of a mile a day—running from Kandahar to Chaman; whence, of course, there is railway communication with India. In front a rough and half-desert road of 300 miles or more is the only means of approach for an enemy. That this is the most advantageous position for the British from the military point of view there can be little doubt. The political advantage, of course, is enormous, because it is in the highest degree inadvisable that India should see us fighting with Europeans. Over that tremendous transaction it is best that there should be a veil, to use Sir R. Temple's words.

Russia is building a railway as fast as she possibly can from Merv to Koshat on the Afghan frontier, seventy miles from Herat. It may be possible to explain the Trans-Caspian railway to Merv and thence to

Bokhara, Samarkand, and Tashkend as commercial, but the Merv-Afghan line is purely strategic, and is a menace to our Empire. The Russians are also examining our frontier near Siestan, and if they could secure as powerful an influence in southern Persia as they have acquired in the north of the same state, the position of affairs would be still more serious.

Our own frontiers now march with the Pamirs, and our position on the borders of this wild region is not unsatisfactory at the present time. Before Colonel Durand's successful campaign in 1891 against Hunza and Nagar, Russian officers with a few Cossacks had visited Hunza and also Chitral, unsettling by their presence the neighbouring tribes. After 1891, the question of the garrisoning of the Gilgit Agency and the connecting of that province with India was taken up. The garrisoning was entrusted for the most part to the carefully drilled Imperial Service troops of the Kashmir Government, with a considerable number of British officers attached to inspect and train them, and take command in the event of hostilities. The present garrison of the Gilgit Agency, which borders the Pamirs, consists of two companies of the 42nd Gurkhas, two Kashmir Imperial Service infantry battalions, and one Imperial Service mountain battery, with a few sappers—some 2,000 men in all. There are outposts at Gupis, *en route* to Yassin and the Baroghil Pass leading to the Pamirs, also at Hunza, near which the Kilik Pass also leads to the Pamirs. The communications between our Agency and Kashmir and thence with British India are closed by several lofty snow-bound passes, which are only open for some six months in the year. During

these six months the Indian Commissariat puts in supplies for the whole year for the garrison of the Agency.

A telegraph line, with difficulty maintained in winter, spans the 200 odd miles which separate Gilgit from Kashmir, while excellent roads for pack traffic now exist along the main line of the Agency. The force of our troops therefore—for the Imperial Service troops are as much our troops in a broad sense as any other¹—is ample to prevent any attempts Russian officers may make at encroachment, or as they prefer to call it, scientific research, so far as our own territory is concerned, whilst encroachment on Chinese ground can only be resisted by diplomatic means.

At one time alarming views were held as to the possibilities of Russia's threatening India *via* the Pamirs, but happily further acquaintance with the country bordering on the Hindu Kush has dispelled these. Enormous passes from 13,000 to 16,000 feet above the sea, mere goat-tracks, snow-bound for three parts of the year, separate Russian outposts from Gilgit and Chitral, while many passes almost as lofty separate these districts from India and Kashmir. The principal passes of the Pamirs are, from east to west, the Kilik, the Baroghil, and the Dora, leading into Hunza, Yassin and Chitral; between Gilgit and Kashmir are the Burzil, 13,000 feet, and Tragdal Passes, 11,500, as well as minor ones; between Chitral and India, the Lowarai Pass, close on 10,000 feet. Forage and transport are almost unattainable, so that there is little to be feared in that direction should Russia and India come to

¹ *The Broad Arrow*, May 6th, 1899.

blows. Prior to the Hunza and Chitral campaigns, matters were no doubt different; small parties of Russians could, and on two occasions even did penetrate far enough in to raise many a rumour of invasion which would grow and increase as it travelled south. The Russian officers who met the British party in 1895 to settle the Pamir boundaries, openly confessed that we "had slammed the door in their faces." The harm that Russia can now do to us is to oust our trade in Chinese Turkestan, and this she is doing fast. Her railway extensions bring her nearer the trade-area every year, and she will probably ere long permanently supplant all our trade there.

Some of the most interesting enterprises of modern times have followed the planting of British rule in Upper Burma as far as the borders of Eastern Tibet. Dacoity has been suppressed in the woods and fastnesses of the Chingwin and the Upper Irrawaddy, and security now prevails to such an extent as to justify the investment of capital in a railway from Mandalay to the Salween through one of the most difficult countries in the world. Too much credit cannot be given to engineers like Mr Wagstaff, and officers like Capt. Macquoid of the Hyderabad contingent, who have been pioneers of civilization and wealth in these rugged regions amidst semi-savage populations. The description of parts of this territory in the *Journal of the Society of Engineers* by Mr Wagstaff deserves careful study¹.

When Upper Burma was annexed the railway

¹ Lecture of March 6th, 1899.

problems that faced the new executive in charge of the country were—

(1) The extension of the existing railway to the capital of the newly annexed province, Mandalay.

(2) The construction of a line north from Mandalay to the upper reaches of the Irrawaddy, to the frontier near or above Bhamo, and

(3) The construction of a line from the valley of the Irrawaddy to that of the Salween, to be eventually extended into the Chinese province of Yunnan.

The first two of these problems have now been solved, and the third is in hand. The route selected for this line, after much reconnaissance and discussion, is as follows:—Mandalay, Gokteik Gorge, Lashio, Salween River, distance 230 miles. The principal difficulties to be faced were, the Ghât between the 15th and 35th mile, with a rise of about 3200 feet, most of which was "bunched" in a shorter distance; and the Gokteik Gorge, with a fall and rise of about 1400 feet in 8 miles.

In the autumn of 1892, a detailed survey was decided on, and three parties went out; one to start work on the Ghât, one under the charge of Mr Wagstaff to begin with the Gokteik Gorge, and one to do the work in the fairly easy country between. Mr Wagstaff's party consisted of himself, one senior and two junior assistant engineers, and two native levellers, 50 chainmen and tent khalassies, a clerk, three interpreters, an escort of 15 military police under a native officer, a native hospital assistant in medical charge, a native in charge of the rations, and about 12 or 16 servants and followers. Rations and stores, with the exception of rice, for all natives for three months, were carried, and a

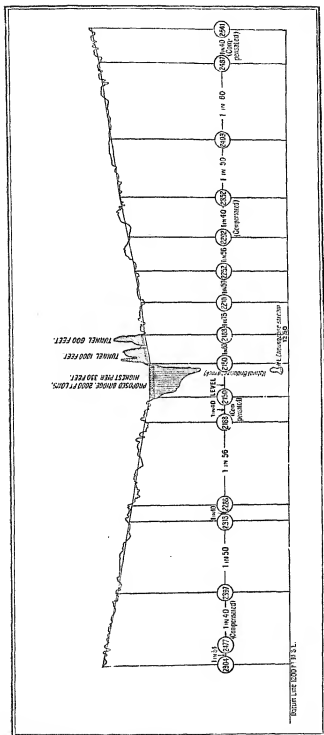
medical outfit and tents for the whole party. It was possible to procure rice locally, but towards the end of the season great difficulty was experienced in obtaining the necessary quantity. A further supply for three months was sent up later.

Transport consisted of about 150 pack-bullocks, with a Shan driver to every four or six animals, the load for each bullock being about 150 to 180 lb. These materially increased the size of the camp. The trained Shan pack-bullock, the principal transport animal used in the Burmo-Chinese trade, can travel from six to seven hours a day at the rate of about two miles an hour, if doing continuous marches for many days in succession. For single marches, with a day's rest before and after, he can cover from 20 to 25 miles. In the case of heavy loads that could be divided, Mr Wagstaff adopted the expedient of selecting two specially strong animals, and used them to carry the load on alternate days, one bullock always doing his march without a load at all. All goods have to be made into loads weighing from 75 to 80 lb., and are packed in bamboo crates and slung over a pair of tightly-stuffed cushions on either side of the animal. A neck and a tail rope are used to prevent the load slipping forward or backward when ascending and descending, but no girths are employed. The drivers are very clever at crating and loading goods, and it is best to leave this to them.

Kerosine-oil cases, *i.e.* the wooden boxes that come from America, each containing two tins of oil, if clamped with iron and fitted with lids and hinges and a piece of painted canvas, rather larger than the lid, nailed on to the top as a protection from the wet, form excellent

loads. A bullock carries two of these, fitted with stores and a light roll of bedding over the top, very comfortably. A pack-bullock takes about two years to train, and is worth when trained from 70 to 100 rupees, or say £5 to £6.

A curious feature of the hill-sides in the part of Burma under discussion, and a common one on both sides of the Gokteik Gorge, is the existence of large tracts of swampy ground where the swamps are on the tops of the hills and not in the valleys. The ground appears to consist of a continuous layer of marl and vegetable fibrous matter combined, about two or four feet thick, spread over the surface of non-permeable rock. This coating appears to have the power of retaining a considerable amount of water and to need to be hung to dry before it will part with it. On the steep slopes of the hill-side it is thus hung to some extent and dries on the surface, the water running off down the gullies on the bare rock; but on the rounded tops of the hills where the slope is small it remains lodged all the year round and fills every pocket in the rock below with silt and water. In surveying on this ground it is necessary to walk for days perhaps up to the knees in the swamp seeking a solid footing below for the greater part of the time, varying matters by an occasional plunge into a hole of unknown depth. It is practically impossible to use a theodolite, as the least movement shakes the surface for fifty yards round. All work has therefore to be done with the compass and the levels taken round the edge. It might be thought that these swamps would prove formidable obstacles to construction, but experience has shown that this is not the



case. A few cross-cuts or drains a few feet wide across the surface of the swamp taken down to bed rock, with pipes or small culverts to carry the water thus collected through the formation, is all that is needed to induce the swamp to drain and give a surface for the bank. In cuttings a large side drain to carry off the collected water is necessary.

The question of malaria was a very serious one for the working parties, both on survey and construction. No working survey-party should go into the Terai or foot-hills until the 1st of December at earliest, and should return if possible by the beginning of May.

The viaduct over the gorge will be one of the largest in the world, measuring over 2,000 feet, and standing 330 feet high. It will require 5,000 tons of steel. It is noteworthy that the contract, in consequence of the inferior tenders in every respect of British firms, has been assigned to Philadelphia.

Two important pieces of exploration have just been made between India and China. One of these is the discovery by Lieutenant Watts-Jones of a feasible railway route from Yung-chang-fu, *via* Monkyeng, to Yinchow. Hitherto the prevalent idea has been that the mountains between Tali-fu, one of the chief marts in Yunnan, and the British frontier constituted a practically insuperable physical barrier to railway connection between British Burma and Western China; therefore, if a practicable route exists capable of extension to the banks of the Upper Yang-tsze, the fact is one of obvious moment. Another notable journey, made in the reverse direction from Shanghai, *via* Hu-nan, to Bhamo, in Burma, has been achieved by Captain Wingate,

of the 14th Bengal Lancers. The two British expeditions appear to have met in south-western Yunnan, and no doubt were able usefully to compare notes. Yunnan and Kwei-chow are described by Captain Wingate as poor and sparsely populated—a fact, of course, already well known—but it is interesting to learn that he was greatly impressed by the wealth and enormous possibilities of Hu-nan. The same conviction forced itself in 1898 on Mr M. O'Sullivan, who paid two visits to Hu-nan, and was astonished in that reputed hot-bed of anti-foreign feeling to find the electric light installed in a number of houses and shops in Chang-sha. Mr O'Sullivan did good service in endeavouring to pave the way for an official British mission to this important province, which Mr F. Bourne, of the Consular Service, has also strongly advised should be opened up to trade. If the coming railway is to be pushed on from the Indian side, and if this be seconded by a friendly mission to the Hu-nanese authorities from the Yang-tsze, it will mean a most useful consolidation of our influence in Central and Western China.

The works executed on the Great Indian Peninsular Railway, to enable it to cross the Ghâts, are in no respect inferior to the famous stairs of Giovo or Semmering between Vienna and Laibach. The total height that had to be surmounted was 1820 feet, on a line of 15 miles and with mean incline of 1 in 48. It was necessary to construct eight viaducts of from 30 to 50 arches, and from 50 to 140 feet high, to cut 22 tunnels of a total length of a mile and three-quarters, and to make embankments containing upwards of 6,000,000 cubic feet.

But the British have also constructed 33,000 miles of excellent roads, worthy of the Romans. They are carried right over mountain-ranges like the Ghâts and the Vindhyas and through difficult passes. The road between the rivers Jhelum and Indus consists of continuous cuttings and embankments for 150 miles. The fact that the old historic dynasties of India utterly neglected roads is the more curious, as manifestly there had been good engineers and good work done on roads by dynasties which have left no historic records. British officers found many remains of old roads north of the Indus which have facilitated their labours in recent campaigns.

In other continents we are also face to face with the strategic consequences of lines of railways, but these are at present complicated in but a very slight degree by questions of fortresses.

It must be remembered that in Europe, as will be seen, excellent roads have existed for centuries close to the lines selected by railway engineers during the past fifty years, and indeed a fair supply of canals opened up means for the conveyance of bulky articles from the sea to the centre of the various countries. But in the greater part of America, Africa, and northern Asia, railways came first, and the lines which connect distant centres of civilization and trade, such as New York, Chicago and San Francisco, were made before the roads; most of the latter linking the railway stations with more recent agricultural, mining, or manufacturing depôts.

The great strategic and commercial line through the Dominion of Canada is of the first importance: it was a daring and beneficent scheme in its conception, the

support of which puts the reputation for foresight of the Dominion Parliament far above that of the mother of Parliaments or any other similar institution in Europe.

The topographical details of the regions traversed by the Canadian-Pacific Railway are simple, and may be described as four main regions—the accentuated territory between Halifax and Montreal, the boundary of the Great Lakes, the vast prairies between the Lakes and the Rocky Mountains, and the mountains and rivers of British Columbia. The line links the Atlantic to the Pacific, and strengthens the offensive and defensive of our Empire to a remarkable degree. Troops from China could be in Great Britain by this route in 25 days, while troops from Liverpool could reinforce our naval dépôt at Esquimaux in Vancouver's Island in 15 days. With regard to the chance of the line becoming blocked by snow, Mr Parkin says that not one day was missed in five years ; though during the same period United States lines were frequently rendered useless for days at a time.

In Canada the central decisive point is Montreal (situated on an island of the same name), having a population of 140,000 and covering an area of eight square miles. The St Lawrence is here crossed by the celebrated Victoria Bridge, an iron tubular structure nearly two miles long, supported on twenty-four piers of solid masonry. As a railroad centre, the head of unimpeded ocean traffic, the outlet of the Canadian system of canals—in brief, as the connecting link between the ocean and the lakes—Montreal is a point of immense commercial and strategical value, and has been termed the “key and the capital of Canada.” In strategic importance it is second to Quebec alone.

With regard to the recently occupied region of Klondyke the sufferings of the first settlers on their way to the gold-producing areas were intense. Travelling from the coast to Dawson City was a more risky pilgrimage than the passage of the Great St Bernard by Napoleon. But roads and railways are now being rapidly opened up, and in a few years the terrors of the White and Chilcoot Passes will be things of the past.

We have already seen that the one weak point of the Canadian-Pacific line is the portion that traverses the American State of Maine, but the Inter-Colonial line remedies this defect, and it can be easily defended. Its Pacific section is secure. No American general would care to operate from the Californian base and the mountainous frontier on the west through the gorges and over the torrents of British Columbia. Compared with this an Afghan campaign would be a trifling operation. But what of the district between the Rocky Mountains and Lake Superior?

Raids on the railways on each side of the 49th parallel of latitude—which is the boundary westward from the Lake of the Woods to New Westminster—would certainly interrupt communications, and abundance of supplies could be found by the raiders. Moreover, there would not be any considerable physical obstacles to the flying columns. But no raid in Manitoba, Assiniboia, Minnesota, or Dakota could seriously affect the social life or prosperity of the great coast towns on either side. As long as Great Britain has command of the seas, and especially if she keeps her contract number of vessels in the Great Lakes and holds the canals of communication between them and the St Lawrence, no

American assault in Canada has a chance of success. It is true the St Lawrence and many other Canadian waters are frozen in winter, but, in winter, movements of troops in Canada—which does not afford half the cantonments that are found by the banks of the Lisaine and Doubs—would entail sufferings as awful as those undergone by the XVIII, XX, and XXIV French corps, from January 15th to February 2nd, 1871. Nothing but some civil strife between Canada and Great Britain, or some crisis with other Powers which would shake the United kingdom to pieces, or loss of command of the sea by a defeat in European waters, or a startling and excessive development of United States sea power, could imperil either Halifax or Quebec, or Montreal, or Esquimaux, or do more than inflict temporary and easily repaired damage on the railway line which enables them to co-ordinate their energies.

Perhaps the most romantic and most interesting of any line of communication in the world is that whereby it is proposed to connect the extremity of South Africa with the Mediterranean. From the point of view of a line for opening up new territories, rendering available exhaustless stores of all kinds of necessities and luxuries, and facilitating military operations in lands which the soldiers of the Pharaohs, the Ptolemies, or the Cæsars dared not approach, the railway from Cape Town to Alexandria is one of the greatest conceptions of modern days. It is already distinctly traced and, although more than half its course is marked unexplored in every map published forty years ago, it has been largely completed. It has conveyed soldiers from regions further away than the homes of those Goths whose prowess amazed Hypatia,

to the tombs of Alexander and the Mamelukes, and to the junction of the Atbara with the Nile itself, whence the river was ascended to the junction of the Bahr-el-Ghazal, through the *sudd* which bars the progress of navigation to the equatorial lakes. It has also linked Cape Town with the diamond mines of Kimberley, and these with the capitals of Khama and Lo Bengulu, and it is now nearing the Zambesi, and steadily approaching the junction of the Blue with the White Nile. This, if not spoiled by party spirit or paltry economy, will be a monument to the genius of our race more enduring and infinitely more far-reaching in its consequences than that splendid paved Watling Street by which the Roman legions marched across Britain from the banks of the Thames to North Wales.

At the date of writing these lines the route is detailed as follows:—

Rail—Cairo to Assuan, 583 miles; boat—Assuan to Wady Halfa, 200 miles; rail—Wady Halfa to Khartum, 560 miles (railway is to be constructed); boat—Khartum to Fashoda, 450 miles; boat—Fashoda to Albert Nyanza, 750 miles; land journey—Albert Nyanza to Lake Tanganyika, 450 miles; boat to end of L. Tanganyika, 400 miles; projected railway to Buluwayo, 860 miles; whence railway opened to Cape Town, 1,360 miles.

A correspondent of the *Times* thus describes a part of the route in September, 1898:—

“The line gradually ascends from Wady Halfa to a point about 103 miles out, where it attains an altitude of 2,100 ft.—that is 500 ft. above the Nile at Wady Halfa; from this point there is a gradual dip towards the Nile at Abu Hamed. The railway throughout traverses one

of the most utterly desert regions on the face of the earth—flat wastes of yellow sand, here and there ribbed by ranges of bare black crags. In a few spots are clumps of withered camel-thorn, but as a rule not a sign of life, animal or vegetable, is visible; in every direction spread out under the cloudless blue sky are the glaring sands and the dark rocks, with only the lakes and seas of the never-failing mirage to relieve the monotony of the dreary scenery. I went with an escort of Ababdeh Arabs to Wady Halfa by the desert-route, which runs almost parallel to this railway and through a similar country; but there I saw the more or less well-defined tracks of caravans, the bones of men and camels who had perished on the way, whereas the railway has been carried across a portion of the Nubian Desert which has apparently never before been trodden by the feet of man. In one place, however, it crosses what seems to have been the route taken a long time ago by a large body of men; for here, 60 miles from the nearest water, the engineers came across a mysterious collection of many hundreds of broken ‘zeers’ or earthen water-coolers; they were two-handled graceful amphoræ of a shape unknown in modern Egypt. This discovery naturally started a good deal of conjecture. Some remembered that Cambyses sent an army across this desert; then, to come down to more modern times, Ismail Pasha once despatched a force of 2,000 men to Abu Hamed, which entirely disappeared in the desert, and was never heard of again. Said Pasha, too, travelled in luxurious state to Abu Hamed, in a carriage drawn by eight camels, with an army watering the desert in front of him to keep down the dust.”

The Sirdar was able, by the splendid skill of Lieutenant Girouard, to construct his railway at the rate of two miles a day across a country where there were no tunnels, hardly any cuttings, and no embankments. The difficulties in the way of the Uganda line however were considerable, and sometimes unexpected. They are best described in Lord Salisbury's words:—"A little further south we are constructing the Uganda Railway across some 550 miles of unknown country. We have there cuttings and embankments to undertake. We have no great command of labour and a limited supply of money, and we do not go there quite so fast as the Sirdar was able to go with his Korosko and Khartum Railway. But still it is advancing steadily, with such accidents as in such a country might perhaps be expected. We suddenly learned that we had altogether a wrong notion of the configuration of the country, and by altering the line we were able to save 100 miles of our journey. But there were other surprises that awaited the construction of the railway in that country. The whole of the works were put a stop to for three weeks because a party of man-eating lions appeared in the locality. At last the labourers entirely declined to work unless they were guarded by iron intrenchments. Of course, it is very difficult to work a railway under these terms, and until we found enthusiastic sportsmen to get rid of these man-eating lions our enterprise has been seriously hindered. There are many difficulties; no water, no food, and a great disinclination on the part of any of the natives to work for any consideration whatever. Yet, in spite of all these difficulties, we have completed more than half the railway to the lake, and by the end of next year we

shall have reached the lake. Well, that means the subjugation, and, therefore, the civilization of a vast country. Nothing but that railway could give us the grip over the country that would enable us to undertake the responsibilities of so vast a territory."

Owing to the railway the question of the supply of horses and camels for our expeditions in the valley of the Nile is not nearly so serious as it once was, but it has never been solved in a satisfactory manner. For the Egyptian expedition 5,400 horses were embarked, a number considerably less than half the establishment of any army corps as laid down. The three regiments of cavalry of the line were given an establishment of 465 troop horses in place of 524, and yet required the transfer of 591 horses from other regiments to enable them to take the field. The artillery at home was denuded of 934 serviceable horses to bring the batteries detailed for service up to war strength and to supply regimental transport. The engineers, with a number far short of that prescribed by regulation, actually embarked only 10 horses short of the total peace establishment of the corps. Of the horses remaining in England, 2,450 were disqualified by age, and therefore unfit for service. Thus to place on a war footing 4 cavalry regiments, 15 batteries, 6 ammunition columns, and full engineer complement for the establishment of an army corps, the mounted branches of the service were reduced to a state of complete inefficiency.

The picture is not encouraging, for in 1878, at a period of great emergency, it required four weeks to purchase 2,250 horses, and in 1882 they were bought only at the rate of 100 a week. One lesson to be learnt

from the only campaign in which of recent years a considerable force of cavalry and artillery of the home establishment has taken part, is that the condition of the mounted branches of the service as regards horses will not bear the strain of the most partial mobilization, and that the formation of some reserve whence remounts can be drawn on emergency is one of the pressing necessities of the hour.

That the camel is wholly unsuited to operations involving daily movement (a fact well known to those who have studied the peculiarities of the animal) has been conclusively proved by the Afghan and Soudanese wars. Slow feeders, they require frequent days of rest to give them time to graze. While their capacity for storing up water, and their indifference to heat, has made them the ships of the desert, their delicacy of constitution renders them unfit to withstand a great strain on their energies or to undergo hardships. For slow steady work at the base they are well adapted ; with a rapidly moving column they are out of place. In the Kuram valley, during the first portion of the ✓ Afghan War, 9,496 disappeared out of a total of 13,480, statistics that cannot but condemn them as transport animals where rough work has to be accomplished. The contrast between the horses and the camels during the trying operations in the Bayuda Desert was very marked. The horses, although reduced to prostration by want of water and fatigue, stood the severe test and soon recovered ; the camels succumbed¹.

A line destined to be of momentous strategic importance is the Trans-Siberian railway from Moscow by

¹ Callwell, *Campaigns since 1885*.

Samara, Ufa, Omsk, Tomsk, Irkutsk, Chita, the north of the Amur River and the east of the Ussuri ; with proposed lines to link it with Port Arthur and Peking by Tsitsihar, Kirin, and Mukden. Yet it has its drawbacks, and many are of opinion that these lines need give the British little uneasiness, at any rate for a long period to come, if they only adopt a resolute and fixed Eastern policy, not to be varied by any changes in party government. Vacillation is fatal to strategy, however favourable may be the strategical conditions. It is said that railways are the true civilisers of the world, but this depends on what kind of civilization follows the advancing line. The Soudan line has already helped civilization, inasmuch as the rule of the Khalifa was utterly ruining the dwellers by the banks of the Upper Nile ; the Canadian Pacific opens out new realms to enterprise and cultivation which were merely a wilderness, and none of the original inhabitants have suffered in consequence. But planting so-called Russian civilization throughout all Siberia will probably not elevate the folk who now dwell between the Ural and the Lena, however much it may promote the interests of new settlers. Strategy and tactics were too much for the Zulus and other Kafirs, but they are far lower now in the scale of human excellence than they were in 1833. So little impression have the Portuguese rulers of East Africa made on the natives under them that horrible atrocities have quite recently been enacted under the very eyes of their *capitão mor*. The people of Gazaland were in such dread of the fate hanging over their next generation if put under Portuguese influences that in 1891 two indunas were sent to England to beg that Gungunhama's

territory might be placed under British protection, but in vain. The Central Pacific from Chicago to San Francisco certainly opened up new territories for the development of the families and the gratification of the avarice of the white man, but the red men were ruined. Corn and domestic cattle superseded their buffaloes, which moreover were wantonly destroyed by monstrous battues. The tribes of Indians whose ancestors roamed only two generations ago in prosperity and freedom between the Alleghanies and the Rocky Mountains are now practically doomed; their grasping neighbours will not even keep their contracts, and have not scrupled to make inroads on their "reservations." Indeed the reserve of the Utes in Colorado has been invaded as lately as May 1899.

The British expedition to Abyssinia was merely an affair of marching over mountains and subsisting. Half of King Theodore's troops were disaffected, and in no case did they make any stand worthy of description against the British.

The battle of Magdala was won by Sir R. Napier's troops with the utmost ease, but supplying the army on its march from Annesley Bay, January 4th, till its re-embarkation June 2nd, 1868, was the difficulty. In this campaign, for the first time since the days of the Romans, elephants were used by European troops in Africa for purposes of military transport. The cattle employed were 45 elephants, 7,417 camels, 12,920 mules and ponies, 7,033 bullocks, and 827 donkeys.

It is said that during their march to Magdala the British followed in the footsteps of Ptolemy Euergetes, who started from the port of Adulis, close to Malkotto

on Annesley Bay, and having conquered most of Tigré returned to his place of disembarkation. The British force numbered 16,000 troops and 12,640 followers. The line of march was for 400 miles to Magdala over a mountainous and unknown country. The only previous instance of an invasion of Abyssinia by European troops was in 1541, when 400 Portuguese were sent to the assistance of the Emperor whose kingdom was overrun by the "Moors" (possibly to be identified with the Gallas of to-day). It is supposed by some that these troops entered Abyssinia from Zeila, Amphila Bay, or some point much to the south of Massowah, but it is much more probable that they entered from Massowah or Arkiko, four miles south.

Abyssinia is a factor which cannot be neglected by any Power interested in the future of Egypt, and in maritime supremacy in the Red Sea. Great Britain certainly was friendly to the development of Italian influence, but Menelek proved as terrible a foe to the Italians as had his predecessors to Mohammedans from the north and south in the middle ages, and to the Egyptians in this century. Under an enterprising leader a numerous, well-armed, and well-supplied Abyssinian force might well be as serious a danger to the dwellers in the Nile valley as was the Mahdi himself.

France and Russia have of late displayed considerable interest in this ancient state of Ethiopia, with which they had relations from the days of the Byzantine Empire, but more with the object of thwarting British influence than because of any immediate gain to themselves or benefit to the Abyssinians. It is admitted by Russian writers that they desire to become paramount

in Abyssinia so as to threaten our communications with India through a base on the Red Sea littoral and near the Straits of Bab-el-Mandeb, where the French have already Sahalo and Obok and almost all the Gulf of Tajura¹. Fedoroff advocates the following policy of grasping the hand which the orthodox Christians under the Negus have so often extended for help to Moscow. "Our engineers, mechanics, and craftsmen can there build up an industry, and our enterprise and skill can secure a hold on both the import and the export trade. This would give us command of the economic life of Abyssinia. The appointment by our Holy Synod of an Abyssinian Metropolitan would surrender the country to us in a religious sense. The despatch of military instructors and the formation of a body of Abyssinian troops under the guidance of Russian officers would place in our hands the armed force." He goes on to prove that the results of this policy would be everywhere apparent. It would doubtless have far-reaching consequences and would forthwith affect the strategic geography of our empire at large. The Abyssinians under these conditions would certainly give employment accompanied with much risk to the Anglo-Egyptian army, but—worse still—Russians could easily acquire one of the southern ports. "This port would have for us a deep significance as a coaling station, and still more as a source of perpetual threat to the welfare and consequently the power of England. Our torpedo boats and cruisers could thence at any moment close to English merchant steamers the trade route through the Red Sea; and this would of course cut in half the trade

¹ See Col. Gowan's translation, *Journal of U.S. Institute*, p. 1271.

relations of England. The possibility thus afforded to us of closing this route would compel the proud Britons to considerably lower their tone, and it might aid us in the settlement of the Eastern Question in a sense that is to be desired by Russia."

Thus it is honestly admitted that the old realm of Prester John is to be used as a powerful weapon against British prestige and British commerce, both in Africa and Asia. Of course if the British gained the confidence of the Abyssinians this plan would fall through, for notwithstanding the comparative security and the complete success of Napier's expedition, the country is a splendid theatre for able defensive operations. To quote Colonel Gowan's words, "The whole country consists of elevated mountain plateaux (ambas) which are abundantly supplied with water, and cultivated fields, which yield two harvests in a year. Such natural fortresses (that of Gunib for example) are separated from each other by deep gorges and river beds, along which giddy precipices afford the sole means of communication. In many places access to the summits of these ambas is possible only with the aid of scaling ladders. It is true that there are fairly good pathways between the capital of the petty sovereignty of Gondar and Massowah, and from both these points to Magdala, but these wretched tracks are not practicable for either wheeled transport or for field artillery. The conduct then of offensive warfare in such a country is evidently not an easy undertaking."

Be this as it may, the fact that discussions on such points are of frequent recurrence in foreign political and military centres proves that ignorance of strategic

geography on the part of our statesmen may involve our nation in irretrievable disasters.

It is a proud reflexion that with the solitary exception of South Africa, where the accident of Boer rule was allowed to check and alter all our traditional policy, the opening of new roads and new railways, and the strategic advances of the British, have in every case been followed with such a distinct and rapid improvement in the status of semi-civilized or semi-savage peoples, that the principal danger is that the unwonted peace, security, and wealth which ensue may lead to over-population.

CHAPTER XI.

EUROPEAN DEFILES AND ROADS.

FOR the future the strategist in Europe will be tied to railways; the lines of military operations over which rails are not laid are diminishing yearly. But as these are identical in most cases with the old roads, and must of necessity go through the same passes and defiles, it may be well to consider the main roads which armies have followed.

The gates of Eastern Europe, excluding sea passages, are from Siberia by Ekaterinburg into the East of Russia, by the line now taken by the Trans-Siberian Railway to Samara and Moscow; by Orenburg; and *via* Derbend through Georgia, and by the Dariel Pass in the centre of the Caucasus into southern Russia. The Turks first landed in Europe at Gallipoli. Before conquering Constantinople they found their way to Adrianople and to the Danube by the well-known passes of Slivno or Selina, Shipka, Trojan, and Etropol; and after the fall of the old Eastern Empire they went by Servia, which had been ruined at the battle of Kossova in 1389, to Belgrade, "the Gate of the Holy War," and to Budapesth. The road as far as Vienna was twice traversed

by Moslem hosts, but on each occasion they failed before its walls.

Gourko passed the Balkans between Orkanie and Sophia in eleven days, during which he lost three generals, twenty-nine other officers, and 1,000 men. Before his movement began, during a great snow-storm, December 18th—23rd, he lost 2,000 men in one night. During the same storm the 24th Division in the Shipka Pass lost 6,000 men from the same cause. After the Danube bridges were carried away they had to depend for six weeks on ferry-boats or transit over unsafe ice. They practically lived on the country, but by this time Bulgaria was nearly exhausted. The campaign was made on hard bread and cattle, driven along on the hoof; no other rations, small or great, were available. The troops had had no change of clothes since the beginning of the campaign, and their ragged and patched condition was deplorable; even their boots were patched with canvas. The Turkish dead were stripped for clothes, and Skobelev on the road to Adrianople compelled the peasants to bake soft bread, but these were mere makeshifts. Gourko's artillery was left north of the Balkans. Skobelev and Mirza from Shipka had cannon, but their horses suffered severely. The cavalry, being well in advance, procured a fair amount of forage, but the fine artillery horses were mere skeletons when they reached San Stephano, the roads being covered with smooth ice, on which they slipped and suffered severe injuries. The cavalry horses had consumed the forage in the villages *en route*, and much of their desiccated food was eaten by the gunners. The baggage-waggons were left north of the Balkans.

Officers' baggage, very much curtailed, was carried on pack-horses; the men carried their baggage and 20—40 rounds of ammunition in their pockets, and their rations on their backs, the knapsacks having been all left behind. The men frequently had to fight without having tasted food for twenty-four hours. But the peasants of Russia are used to hardships, and no complaints were heard. Their adversaries rivalled them in self-restraint and powers of endurance, but the seeds of typhus and typhoid were laid in the Balkans, and when a milder clime was reached, disease raged amongst the long-suffering troops within sight of Stamboul. The sappers misled Gourko as to the difficulties of the Orkhanie road, they said it was practicable for artillery, but the best parts had a slope of one in six, and the worst a slope of one in three. The horses were useless. The guns were hauled along, or let slide down ice-clad inclines, by drag-ropes. The celebrated Preobraghensky 1st Regt. of the 1st Division of the Guard maintained its old prestige by leading in this appalling enterprise.

Invaders of Hungary enter by the Rothenthurm Pass, south of Hermannstadt, which was the route of the Russian General Lúders in 1849; by the Tömöser Pass south of Kronstadt; by Vereczke, the gate of the Magyars; and by the valley of the Bogrod and that of the Vistula.

The *trouée* of the Oder leads into Moravia, and in the Seven Years' War 1756–1763, in 1813, and also in the Seven Weeks' War of 1866 the passes used in the north of Bohemia were Nachod, Trautenau, Reichenberg, Pirna, and Töplitz.

Armies invading Italy would move from Vienna by

the Semmering Pass, thence to Villach, and by the Tarvis Pass between the Carnic and the Julian Alps to Udine. Napoleon went by Tarvis as far as Leoben in 1797. From Bruck on this road there is a line by Laibach to Trieste and Fiume; while Innsbruck is joined to Switzerland through Arlberg and to Vienna by Kufstein.

A road was made from Innsbruck through the Brenner Pass by the Romans, and it was for some centuries an avenue for barbaric inroads, and afterwards the main route of commerce between Venice and central Europe. It was of great significance in Bonaparte's campaign of 1797. The Stelvio Pass was opened up by the Austrians for strategic purposes; the Splügen is celebrated for its passage by MacDonald in 1800. St Gothard, connecting the valley of the Reuss with the valley of the Ticino, is a noted pass, whence the old road from Italy goes to Altdorf, Zurich, and Schaffhausen, where it joins the principal lines which turn the Black Forest. Suwarrow used the Gothard in 1799. Moncey joined the First Consul at Milan from Moreau's army at Schaffhausen by this road in 1800.

The Simplon is now a fine road, and other important passes are the Grimsel, Gemmi, Bernardino, Septimer, and Bernina. Altogether there are some forty commercial highways over the Alps.

A case in which a railway has not superseded a road for military purposes is the St Gothard line. Even supposing the tunnel not to be obstructed, its services in transporting troops would be small. It can only be used by demi-trains, but 100 complete trains are required for a *corps d'armée*, therefore in the tunnel 200

trains would be required, and when the special engines are considered, the reduced speed by reason of slopes and curves, and the absence of disembarkation stations and sidings, only ten trains daily could be sent on. Therefore it would take twenty days to transfer a corps of 30,000 men with its impedimenta, from Bellinzona to Lucerne or *vice versa*. In good weather therefore the old road would probably be the quicker route.

The Pusterthal defile connects the Tyrol and Vienna; the Maloja the valley of the Inn with Italy.

The Simplon, with a road made by Napoleon, gives passage from the valley of the Rhône to the valley of the Ticino. The Furka Pass connects the valley of the Reuss with that of the Rhône. The defile of St Maurice is a formidable strategic position, the proper fortification of which would render Switzerland impregnable from the direction of the Rhône valley.

The Great St Bernard leads from Martigny to Aosta and Turin, and it was by this pass that Bonaparte turned the right flank of the Austrians in 1800.

The Little St Bernard, Mont Cenis, Genève, Tenda, and La Corniche passes lead from France into Italy, and have been traversed by armies from the days of Charles VIII—the first French monarch who interfered to any considerable extent with the affairs of Italy—to those of Napoleon III. The Radstädter Tauern connects the Drave with the Salza. The Rottenmanner Tauern is between the Ems and the Drave.

North of the Alps the defiles are along the line from Geneva to Lyons, across the Jura at Pontarlier—scene of the surrender of Bourbaki's army in 1871—and Porrentruy. The gap of Burgundy from Basle into

France near Belfort was used by the Allies in 1814; it is between the Jura and the Vosges. Across the latter mountains there are numerous roads from Mulhausen, Colmar, Schlettstadt, and Strasburg. That from Strasburg to Épinal by the pass of Schirmeck was used by Von Werder when, after the capture of Strasburg, he proceeded to try his fortune in the directions of Dijon and Besançon. The gap of Saverne is on the main line from Strasburg to Paris. Bitsch commands another route through the northern Vosges. All important Rhenish towns from Strasburg to Arnheim are centres of old roads and railroads leading into the valleys of the Moselle, Meuse, and Seine, and eastward to Leipsic and Berlin, Warsaw and Königsberg, and St Petersburg, Wilna, Moscow, and Kiev.

The direct line between Paris and Berlin passes by Maubeuge, Namur, Liège and Cologne. But neither a French nor a German army would take this line, inasmuch as they are now face to face, and almost touching each other, on the frontier of Lorraine. Moreover, physical obstacles would render it impossible for an army in Belgium and one in Lorraine to keep touch.

In the Roman days Germanicus passed the lower Rhine because central Germany was covered with forests and the cantonments of the barbarians were in the north of Germany.

For the same reason Charlemagne advanced against the Saxon Confederacy by the lower Rhine: the army of the Sambre and Meuse crossed and recrossed at Düsseldorf in 1796. The northern army of the Allies also advanced by Düsseldorf in 1814.

There are numerous roads through the northern part

of the Black Forest. In the southern part the principal defile is Höllenthal, near Freiburg. The *trouée* south of the Danube is between the Wutach River and the Lake of Constance, and by this route the French marched into Germany in 1796 and 1800. There are no difficult passages in the gates of Westphalia or the gates of Thuringia. The "Rennstiege" of the Thuringian Forest deserves mention—it is the oldest military road in Mid-Europe, and (according to Freytag) was in existence before our era. It extends from Eisenach to the Fichtel Gebirge, and although now in desuetude and decay, it was undoubtedly once a great road. It leads right along the watershed of the forest.

The passes from France into the Iberian Peninsula that can be used by armies are few. On the west the road by Bayonne, St Sebastian, Burgos, Valladolid, and thence to Madrid or Lisbon, was used by Napoleon and Wellington. On the east the route from Perpignan to Barcelona, Valencia, and Carthagená has been followed by many an army, from Hannibal's to Suchet's. There are also minor roads, Lerida by Séo d'Urgel, Zaragoza by Jaca and Urdes into France, and lastly the pass of Roncesvalles, used by Charlemagne.

There were two main roads from Portugal into Spain during the Peninsular War. The northern went from Lisbon by Almeida through the fortress of Ciudad Rodrigo to Salamanca, thence bifurcating to Madrid and to Burgos, *vid* Valladolid; while the southern road passed from Lisbon over the Tagus and through the great fortress of Badajoz, whence it stretched south-east into Andalusia and north-east to Madrid. Hence the strategic importance of the two fortresses, both of which

Wellington was compelled in 1812 to take by storm at all costs. The scenes at the assault of Badajoz were the most terrible in the annals of the war. At the main breaches 2,000 British troops fell within the space of a hundred square yards in one hour.

The road into Greece used by the Turks in the war of 1897 was by Salonika, Elassona, Larissa, Velesino, Pharsala, Domoko, and Lamia—near which is Thermopylæ; on this line they had a secondary base at Monastir in Albania. There were also operations on the line Janina to Arta, and this road would have led to Lepanto. The Turks, next to the British, are the most skilful adepts in moving troops by sea in Europe, and could have crowded troops into Salonika if need had arisen, but the resistance of the Greeks collapsed without any necessity for great efforts of this kind.

During the Roman wars the mountains of the Olympian chain were the scene of singular and interesting tactics. Antiochus III from Syria seized Thessaly, and as the Consul Cecilius advanced against him, he took post at Thermopylæ, strengthening the entrance of the defile by redoubts and a double ditch. Slingers and archers occupied these works, and in front the phalanx formed a rampart bristling with pikes, his right towards the sea being covered with elephants. But the elder Cato, who served on the staff, turned his left, and descending on the rear of the Syrians caused them to retreat with precipitation; the elephants, however, covered the rear in a narrow defile and completely stopped the pursuit.

In the war against Perseus, 171—168 B.C., the Romans were again in great difficulties in this Olympian chain.

The Consul Marcius Philippus, wishing to avoid any conflict with the Macedonian troops who watched the defiles, marched through almost impracticable by-paths which the enemy thought it would be useless to guard. His army in these passes, amidst sharply escarped hills, suffered severe privations, but what caused most delay was the difficulty in persuading the elephants to descend by the steep slopes. They were frightened by the precipices and, weary of a succession of difficult obstacles, tossed off their drivers, and gave vent to their rage in screeches which frightened the horses. They caused the army as much trouble in every defile as a surprise by the enemy till the consul devised a plan of luring them on to moveable bridges, and thus transferring them across the deepest gullies.

It is always dangerous to risk an important enterprise in any defile, the force may be taken by a surprise, and then escape is only possible if some other defile be at hand. Maurice of Saxony and his mercenaries in 1558 marched from North Germany into the Tyrol, taking by surprise the fortresses on the road to Innsbruck, driving the Emperor Charles V to a precipitous flight over the Carnic Alps, and enabling him to dictate the terms of the Treaty of Passau. In this case the number of the assailing body was contemptible, and a little presence of mind would have taken its measure and baffled its purpose. But the danger of surprise consists in the disturbance it causes in the mental vision of the men surprised. Coolness and the power of reflection are replaced by panic and dismay. This example of a surprise inculcates the necessity of attention to every detail, even the smallest.

The Romans practically surrounded, their Empire, whether by the banks of the Tigris, the Danube, and the Rhine, or north on the line of the Solway and Firth of Forth, with a series of military positions along which the legions placed posts, their head-quarters being frequently behind in some central camp or colony, whence they could with ease reinforce any part of the threatened line. Rapid communication with every part of the Empire was secured by the admirable military roads, which in every case accompanied the progress of their arms, linked the farthest settlements with the centre at Rome, and were at once magnificent avenues for commerce and strategic lines of operations. No question of cost was allowed to interfere with their excellent structure and perfect preservation. The densest forests were cut through and the most rapid torrents crossed, witness the sublime bridge of Trajan at the Iron Gate of the Danube near Orsova. For centuries the Empire expanded and the frontier was constantly advancing, but there came a time when the course of Empire stopped, and forts, walls, and vast dykes, which tradition later ascribed to diabolical ingenuity, took the place of powerful armies ready for the fray.

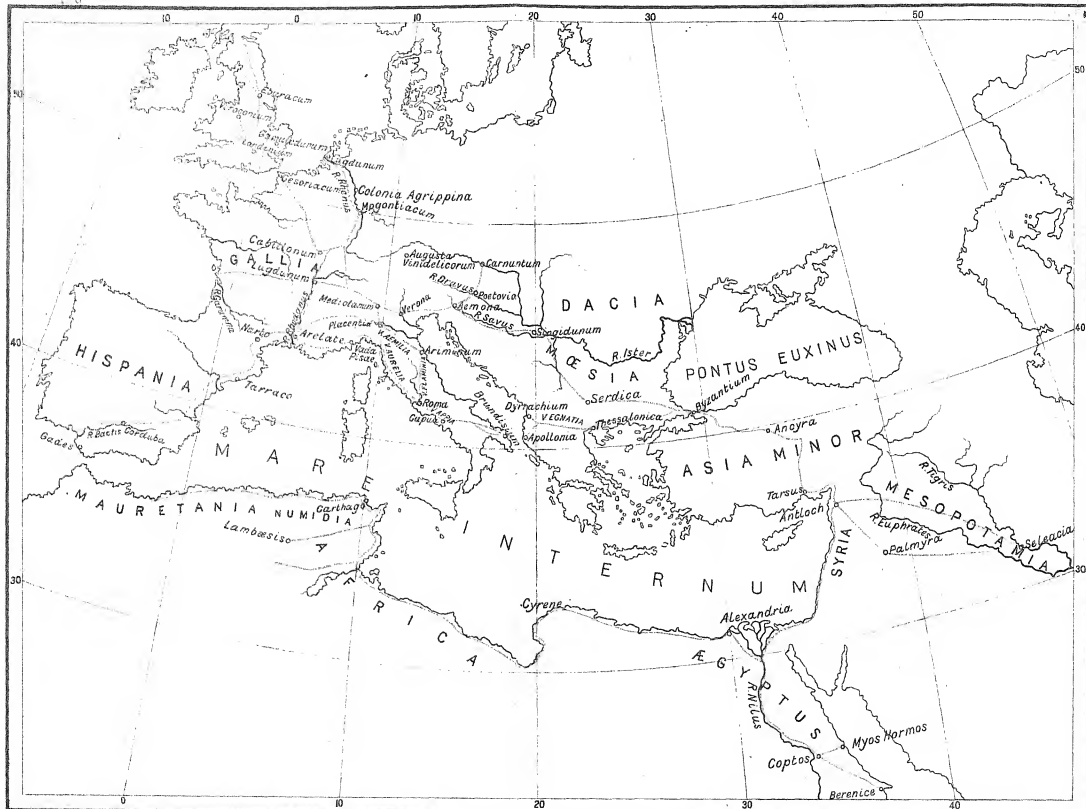
The end of the Empire was then at hand. The merely defensive attitude behind lines of forts is a sure sign of national decay; the descendants of the Cæsars sank into timidity when victory seemed uncertain, and before very long the roads became easy avenues for barbaric invasions. Yet they are still topographical and historic landmarks of practical importance; indeed they were built for immortality, and their milestones—starting from the Golden Milestone in the

Forum on which all distances were marked—are still frequently found in Europe, Asia, and Africa. No wonder that Rome appeared to the natives beneath her sway eternal as well as all-powerful, so that the fall of the Imperial city seemed to mark for them the end of all things.

All writers on European strategy find their labours lightened by a good classical atlas, and the solution to many difficult problems of modern history will be found in the geographical records of the civilizations before the Christian era, of which, in his *History of Ancient Geography*, Mr Tozer has given an admirable summary. The railway route of to-day from Constantinople to Central Europe is by Adrianople, Philippopolis, Sophia, Nish, to Belgrade, and thence to Budapest and Vienna, and the traveller who books his seat in the "Orient Express" from the latter city to the Turkish capital follows throughout his journey the track of a Roman road; while if he passes on into Italy he will soon be in the Via Aemilia itself by Verona, or, by Aquileia. Attila took the latter road with disastrous consequences to the inhabitants.

The British or Saxon traveller who—either as a victim for a Roman triumph or a pilgrim of the faith—made his toilsome way to the centre of victory and religion, having crossed the Channel from Richborough to Gesoriacum or Boulogne, proceeded thence by Amiens (Samarobriua) to Châlons sur Saône (Cabillonum), thence to Lugdunum or Lyons—which as the confluence of the Saône and the Rhône was in the days of Agrippa a leading strategic centre even as it is now—and by Milan and Placentia to the Æmilian and Flaminian Ways. From Lyons a great road branched off to Arles and the

United Service Institution
of India.



Mediterranean, another went by Limoges to the mouth of the Garonne, and another to Rheims, which has been equally important in the Hundred Years' War, in the Napoleonic wars, and in the last Franco-German wars. Another road was from Lyons to Vienne, and by the Little St Bernard to Aosta, Ivrea, and Mediolanum (Milan), whence a continuation went by Turin and the Durance to Arles.

The Via Flaminia skirted Mt. Soracte, passed the Apennines, and went to Rimini (Ariminum): under the name of Via Aemilia it was continued to Piacenza—the celebrated passage of the Po by which Napoleon turned the Austrians in 1796 and 1800—and Milan, afterward the capital of the Lombard Kings and Napoleon's capital when he ruled the kingdom of Italy. By the Great St Bernard a road went through Helvetia to the Rhine near Basle. The four roads through the Alps known to Polybius were by the Riviera, Mont Genève, the Little St Bernard, and the Brenner: the last-mentioned defile went to Augusta Vindelicorum or Augsburg, which maintained its commercial position through the Middle Ages, and its strategic importance till the wars of Marlborough and Moreau. From Verona roads stretched by Laibach on the one side to Carnuntum on the Danube, and on the other to Singidunum (Belgrade).

Carnuntum was one of the chief Roman fortresses on the Danube, and a station of the Danubian fleet. When Marcus Aurelius was fighting the Marcomanni and the Quadi he made it his head-quarters. It was finally destroyed by the Hungarians. Its site may now be traced by ruins near Deutsch Altenburg, east of Vienna (Vindebona).

The Via Aurelia went by Pisa, and was continued under the name of Via Aemilia Scauri to Ventimiglia, Monaco, and Cimiez, where it branched off to Fréjus and thence to Narbonne, and crossed the Pyrenees to Gerona—the scene of fierce warfare against Augereau, MacDonald and Suchet in 1809–1812,—Tarragona, Valencia, and the Jucar, the theatre of the British operations under Murray and Bentinck in 1813. It branched off to Corduba and Hispalis (Seville), and terminated at Cadiz (Gades).

The quickest route to Byzantium was along the Appian Way to Capua—where Hannibal was reported to have let his opportunities slip by in inglorious luxury and repose—and Beneventum, and by Tarentum or Canusium to Brundisium, where the Adriatic was crossed to Dyrrachium and Apollonia, whence the Egnatian Way brought the traveller eastwards by Monastir and Pella, the birthplace of Alexander, to Thessalonica (Salonika) and by Philippi, where the Triumvirs defeated Brutus and Cassius, to Constantinople. The road from the Hellespont to the Tigris at Seleucia (so called from one of Alexander's generals) went from Abydos to Ancyra, the scene of Timurlane's great victory over the Ottoman Turks, and by the Cilician Gates to Tarsus. It then passed the Pylæ Amenides to Antioch, one of the last fastnesses of the Crusaders in Asia, and crossed the Euphrates by the bridge of boats at Zeugma. There was also another road from Antioch to Seleucia through Palmyra, which city was for centuries a leading centre of trade and art till overwhelmed, in spite of the energy of Zenobia, by the savage vengeance of Aurelian, 272 A.D.

A road ran along the coast from Antioch to Egypt, by which both Alexander and Bonaparte proceeded up the Nile to Coptos near Thebes, and thence to Myos Hormos on the Red Sea. A strategical road also linked together all the stations and seats of commerce on the North African shores, and in N.E. Gallia a road connected the various posts on the left bank of the Rhine from Mayence to Colonia Agrippina (Cologne) and to the mouth of the river near Lm (Lugdunueyden). This latter work anticipated the modern railways that connect the German fortresses, and was constructed for similar strategic reasons. The terrors of the Hyrcanian Forest, which stretched from the Teutoburger Wald where Varus lost his legions to Poland, stopped Roman enterprise in Northern Germany.

The operations of the French in the Alps in 1799 are frequently used as illustrations of the use of mountains for defensive purposes and of their defiles for offensive strategy, and especially turning movements. Suwarrow's enterprises in 1799 consisted of three distinct movements, in each of which he was foiled by reason of the ability of the French and the inferior energy of his allies the Austrians. Advancing into the St Gothard defile from Airolo himself, he sent detachments round by his right to Crispalt and Disentis. The French generals Gudin and Lecourbe retired, the former moving by the Furka Pass and the Rhône glacier, the latter breaking down the Devil's Bridge. A shocking scene took place at this dreadful gorge, but at last the Russians crossed and drove the French back to Altdorf; but when Suwarrow reached the Lake of Lucerne he was stopped by the want of boats, and was therefore

obliged to retire by his right in a most perilous journey by the Shächen-Thal towards Glarus.

No more heroic march than this has ever been undertaken. The Russians abandoned their artillery and baggage and advanced in single file, dragging their beasts of burden after them. The leading files had reached Muttén before the last had left Altdorf, and the precipices beneath the path were covered with horses, equipages, arms, and soldiers unable to continue the laborious ascent, but the Austrians again retired, and at Muttén the Russians were in the midst of French enemies. They attacked Molitor and drove him to the banks of the Linth, but he stood at Näfels and blocked their way in spite of the resolute attacks of Prince Bagration. At the same time the Russian rear guard was assailed by Massena, who was repulsed. After resting for a few days at Näfels, the Russians resumed their retreat over the mountains by Engi and Matt into the Grisons. Snow was falling, the tracks were obliterated, few stores were left, there was no shelter. The ascent by the Panix Pass was dreary and dangerous, the descent to Ilanz was even more risky by reason of the slippery frozen snow. After sleeping in snow without fire or covering they reached the valley of the Rhine with head-quarters at Ilanz. At Coire there was a liberal distribution of rations, and at Feldkirch the Russians reopened communications with the Austrians. Five thousand Russians perished during these marches in one fortnight.

The leading difference between the operations of Napoleon and MacDonald in the Alps as compared with the only failure in the glorious career of Suwarrow was

that the combinations of the former were sound, and if the defiles could be passed their adversaries would be at a strategic disadvantage of a serious kind ; moreover, the facts about the routes throughout were known to both the French leaders, while the Russian general was quite misinformed about the topography of the district. Moreover, the Austrians and Russians in the Alpine districts in 1799 were on exterior lines, while Moncey and Napoleon in 1800 were on interior lines.

In Suwarrow's case sixty-six thousand allies, divided into several large sections, spread out in a wide semi-circle from the Lake of Zurich to St Gothard and to Disentis, and attacked a superior enemy in a central position. Moreover, there were two fatal errors in detail. The road selected became a mere bridle-path at Taverna, south of Bellinzona, and came to an abrupt end at Altdorf, though Suwarrow's object was Schwyz. Moreover, the Austrians promised to have fifteen hundred mules at Taverna. After a delay of a few days only six hundred and fifty arrived, and it then became necessary to requisition the horses of the Cossacks for baggage animals.

Napoleon's strategy in May and June, 1800, was brilliant both in conception and execution, and his elaborate plans resulted in such complete success as to dazzle mankind, and to win the warm praise of General Bulow, who compares his foresight and quickness with the narrow views and hesitating manœuvring of the Austrians. But his passage of the Great St Bernard in May by St Pierre, Etroubles, and Aosta, though excellent from every point of view, was far from being as risky an operation as many other similar movements, and the

passage, which lasted only three days, was not hampered either by the inclemency of an Alpine winter or by any military resistance; indeed it was facilitated by the hospitality of the monks of the Hospice. But the experiences of Suwarrow previously in the St Gothard, and Glarus and Grisons was of the most appalling character. He had to fight both nature and man; as had also MacDonald in his desperate movements in the Splügen and among the glaciers of Mt. Tonale, and in his long circuit by Pisogne and the valley of Sabbia and the Val Trompia into the Sarca valley. MacDonald concentrated between Coire and Tisis at the entrance of the Via Mala in the middle of December, and followed the road over the Rhine till he reached the village of Splügen, where the serious difficulties began. Avalanches swept his men over precipices from their track over the snow, which was only formed by the pressure of an advanced party of the strongest men and heaviest cattle of his army. On the night after the Hospice was reached—the 5th of December—all traces of the road were lost in snow, yet the summit was attained. Here an avalanche closed the descent, but MacDonald led the advance himself, sounding the unstable mass of snow with a long stick. The soldiers cut through walls of ice and snow, though suffering heavy losses by frequent avalanches before they reached Isola. Thence he was ordered to cross the Col Aprica by steep ascents and difficult roads into the valley of the Oglio. He then had to lead his troops in single file by a path through the snow to the summit of the Tonale. Advancing along a plateau 300 yards wide between two impassable glaciers, he found himself before

a triple line of Austrian entrenchments faced with solid ice. These his men could not carry in spite of desperate efforts, but as is usual in these cases, a turning movement by another path succeeded, and his left wing entered the Engadine and seized Glurns.

He reorganised his force in the Val Camonica; again he could not force the mountains in his front, so he turned their southern extremity by Isogno. Thus the Austrian line was turned by the upper extremities of the Tyrolese valleys. As far as the obstacles of nature are concerned this was the most marvellous operation in European warfare in modern times. It is but fair to say that MacDonald only ventured upon such an enterprise in consequence of the peremptory orders of Napoleon, who little thought that the operations of his lieutenant would gain more glory than his own.

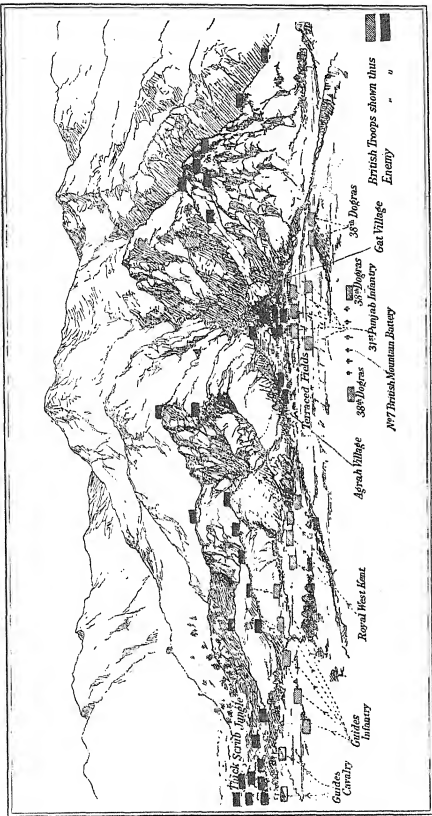
One of the most singular military episodes in Napoleon's career was the surprise and capture of Vandamme at Kulm in the Pirna-Töplitz defile. After the glorious victory of Dresden, Vandamme pressed upon the retreating Allies in the direction of Töplitz; in point of fact he put himself astride the road, and had he been victorious in the battle which followed, the Allies could not have debouched from the Erzgebirge. Moreover, as they were pursued by the Emperor and Marmont and Murat, and had several thousands of waggons in the narrow defiles, they would have been ruined. But Vandamme became isolated, and was not supported by any reinforcements, which he had been led to expect, nor did Napoleon pursue with vigour the retreating foe. Thus Vandamme's 23,000 men were attacked in front

by 60,000 Russians and Austrians, and being obliged to fall back, found Kliest's Prussian corps on the main road. After a terrible hand-to-hand conflict in the narrow defile 20,000 French were killed or made prisoners, amongst the latter being Vandamme. The rest escaped without arms over the mountains to Peterswalde.

There is always a danger of fighting with a defile behind the line of battle, whether it be a road through a mountain or a bridge over a river. If the battle be lost and the retreat be not orderly, wild confusion is the result, the troops will be hemmed in by precipices or forced into the river. Thus at the battle of Leipsic there was only one bridge over the Elster, but it was broken down before all the troops were across; the result was appalling loss, including Marshal Poniatowski, who was drowned. Again, waggons may block the road, as at Vitoria.

But if the line of battle be not too near the defiles, and if the troops, covered by artillery and cavalry, be carefully drawn away betimes, defiles become an advantage to a retreating army, as was seen at the battle of Sadowa, and often on the Mincio. Jomini says that the forest of Soignies behind Wellington would have been of much advantage had he lost Waterloo, as the British would have fallen into disorder, and the defiles would have retarded Napoleon's pursuit.

The rule is that no attempt should be made to carry a mountain defile or a strong position on a mountain crest by a direct or front attack if it can possibly be turned by a flank attack. This rule has been adopted from the days of Xerxes to those of Moltke, who did



SKETCH OF BRITISH ASSAULT ON AGRAH VILLAGE.

*United Service Institution
of India.*

not attempt to carry Bitsch or Pfalzburg, but simply observed and marched round them. Suleiman's repeated attacks on the Russians at the Shipka Pass were among the worst blunders in Turkish history. The Russians used other minor defiles to turn the same pass after the fall of Plevna. The British, however, have had many fierce fights in defiles in recent years, as illustrated by the annexed plan of the assault on Agrah village.

Diebitsch, in the Balkan campaign of 1829, leaving a force to watch the Grand Vizier at Shumla, suddenly and secretly crossed the range with 30,000 men, and got supplies from the Czar's fleet under Admiral Greig in Burgas Bay. But for these supplies, and the skill with which he led the enemy to over-estimate his numbers, he would have entered Adrianople as a prisoner instead of as a victor.

It has been shown that in the Alps the Austrians repulsed the French front attacks on their positions, and that the French commanding the defiles repulsed the Russian attacks under similar conditions.

The actions of the American civil wars support European lessons; Sherman could not force one of Johnson's positions in the defiles between the Tennessee and the Chattahoochee in 1864, nor do the recent actions at Dargai by Generals Lockhart and Yeatman-Biggs lend credit to any different theory. Much controversy exists as to whether in this case a turning movement was possible. During the first battle the turning force under Brigadier-General Kempster did not arrive till late, and the road was so bad that no mules could accompany the men. The position was nevertheless carried, but afterwards abandoned. In the

second battle for the same position, though the enemy was led to expect a flank attack, General Yeatman-Biggs ordered a front attack. The result was a fierce engagement and the temporary check of some regiments. But between Dorsets and Derbys, Sikhs, Gurkhas, and Gordons the fight was well won at last. Much difference of opinion exists as to this battle. The attacking general manifestly believes that he had no option, as the movement to turn the enemy's left rear was an impossibility; on the other hand Sir William Lockhart holds that it was possible and would have been decisive. But traversing the Chagru defile under fire would certainly have been a serious enterprise, almost as bad as MacDonald's over Mt. Tonale; it is a narrow gorge, sometimes little wider than the river bed, winding between cliffs often rising perpendicularly 300 or 400 feet on each side. On the other hand semi-civilised people or savages do not possess artillery, which is so helpful to Europeans who command defiles, and further a flank movement produces much more effect on Afridis than on a corps like Vandamme's. No savage nation has a good system of reserves, and against Asiatics the line of the flank attack may be separated from the front attack to a much greater extent than in Europe; the enemy has no reserve in hand to meet the turning movement, nor can half-drilled troops change front left or right with rapidity. Again, European leaders are skilled in the use of detaining-forces, and all of them know well how to hold back one attack with a small force while concentrating against the other, and can execute quickly counter-attacks, as at Austerlitz and Salamanca.

CHAPTER XII.

HISTORIC LINES OF INVASION.

THE name of Alexander, Philip of Macedon's "god-like son," has cast a spell over the imaginations of mankind, and the more carefully we study the map of the Mediterranean coasts, the seats of great monarchies mentioned in Holy Writ, and the confines of our Empire in India, the greater our admiration for his genius in war, his valour and his patience, as well as for his love of science and letters.

In the Romances of the Middle Ages he was a familiar figure, no old historic story was complete without some reference to his exploits; he figures in Spenser's *Faery Queen*, our Puritan poet Milton invoked his example so that "captains and colonels might spare the house of the author of *Comus* even as Alexander amidst the ruins of Thebes respected the house of Pindar," and the royalist Dryden in his immortal lyric makes him, under the fascination of St Cecilia, display all the rapidly changing transitions of his exalted and fascinating if capricious and unscrupulous personality. Albania attracted Byron because it was the home of Iskander; to Napoleon he was the lode-star; and the routes from the Eastern Mediterranean to the Punjab,

though many had been opened up before his time, are mainly of historic interest because of his operations. The chivalrous and dignified chiefs of Kafiristan are proud to believe that his blood flows in their veins. No small number of the strategic points from the Hellespont to Lahore are simply landmarks set up by his intuitive skill in mastering the relation of geography to war. But the generalissimo of Europe against Asia was not only a soldier; like all his most illustrious successors, from Cæsar to Trajan, and from Timurlane to Napoleon, he was also a student and a philosopher. The favourite pupil of Aristotle recognised that the road to knowledge was the road to victory; he knew that, as Spenser says—

"Abroad in arms, at home in studious kind,
Who seeks by constant toil shall soonest honour find."

Every aspect of the effect of sea power was exemplified in the methods whereby he linked his army with Greece, and gained new bases in the Levant before returning into the basin of the Euphrates and thence into Central Asia. His operations in the old centres of Assyrian and Persian power were eagerly followed by Moltke when engaged in the Turkish Service. From Runkela, a town cut out of the rock, formerly the old Roman castle of Zeugma, the illustrious German, who was destined more than thirty years later to lead across the Rhine hosts more numerous than ever started from Babylon or Persepolis, wrote to his friends, "The Euphrates here reaches its extreme western points, and in former times it was crossed by a bridge, which was perhaps the reason why the Romans founded a colony in so impassable a neighbourhood. One starlight night

I stood amidst the ruins of Zeugma. Below in the rocky defile the Euphrates glistened, only the noise of its ripple breaking the stillness of the night. Before me in the moonlight passed the wraiths of Cyrus, Alexander, Xenophon, and Julian, who all, from this self-same stony spot, once looked down across the stream upon the land of the Chosroes—a spot which time and nature cannot change.” At this epoch (1838) the Egyptians were trying to conquer Asia Minor. Moltke reached the narrow defile through the Taurus which links Asia Minor to Syria, and at once recognised the strategic importance of Alexander’s march.

From the days of Alexander to those of Ibrahim Pasha (2170 years) these mountains have played an important part in the march of armies, and even more so in the commercial intercourse of nations. These passes through which European armies had often advanced against Persia, India, and Egypt, had now to be closed against the latter nation, which threatened Europe with invasion just as it had five centuries before.

Alexander was first distinguished when eighteen years old in the service of his father at Chæronæa 338 B.C. On his father’s murder in 336 he was elected as general of the Greeks against Persia, but he was first obliged to secure his communications by a campaign against the Thracians of the Balkans and against some of the Gatae, in pursuit of whom he crossed the Danube in 335. He returned to Greece, and having destroyed Thebes, which had rebelled in his absence, marched to the Hellespont with only 35,000 soldiers, confident that no number of Asiatics could resist his well-trained and highly disciplined army. At the river Granicus in 334

he defeated the Persians; his naval policy after this victory has already been described. Next year he collected his forces in Gordium in Phrygia, and, cutting the mystic knot, set out for Issus on the boundary of Syria. Here he inflicted a disastrous defeat on Darius. In point of fact, by not occupying in strength the Pylæ Amenides from Cilicia, the Persians almost courted defeat. He then displayed the nobler traits of his character in his generous treatment of his adversary's family. He turned into Phœnicia, and after the fall of Tyre received the homage of Egypt, founded Alexandria, and in the Lybian desert was welcomed as a god by the priests of Ammon.

In 331 he set out to fight against the new levies of Darius, crossed the Euphrates and the Tigris, and came up with the grand Persian army at Arbela in the plains of Gaugamela. This battle is used by Lord Bacon to give point to his theory "that a man may truly make a judgment that the principal point of greatness in any state is to have a race of military men."

"The army of the Persians was such a vast sea of people as did somewhat astonish the commanders of Alexander's army, who came to him therefore, and wished him to set upon them by night; but he answered, 'He would not pilfer the victory,' and the defeat was easy¹."

Babylon, Susa, and Persepolis surrendered forthwith. In 330 he traversed Media and crossed the Paropamisus (Hindu Kush) Mts. into Bactria, where he executed Bessus, the murderer of Darius. He further dared to cross the Oxus and Jaxartes and punish the wild Scythian

¹ Bacon's *Essays*, XXIX.

tribes to the east of the latter river. His policy was very different from that of the British; they prefer isolation, he encouraged his soldiers to marry Asiatics, and set the example himself. He crossed the Swat valley and the Indus near Attock in 321, after an admirable display of tactical ability in mountain warfare similar to that which the British have so frequently undertaken since 1838 in the same part of the world. He traversed the Punjab, and defeated Porus on the Hydaspes (Jhelum) and marched as far as the Hyphasis or Sutlej, having treated Porus with magnanimity.

His troops would go no further; he therefore took ship down the Indus with part of his army, while two divisions marched along the banks. Arriving at the Indian Ocean, he sent Nearchus with the fleet along the Persian Gulf, the strategic value of which has again attained international importance in 1899.

With his army he entered the inhospitable territory of Gedrosia (Beluchistan), and in the spring of 325 reached Susa, whence he proceeded by Ecbatana to Babylon, where in the midst of far-reaching military and political schemes he died 323 B.C.

Every young student is excited by the very name of the famous Macedonian, and a consideration of his military career is one of the most popular of geographical studies. His strategic peregrinations can easily be followed on the map by the aid of the following summary:—

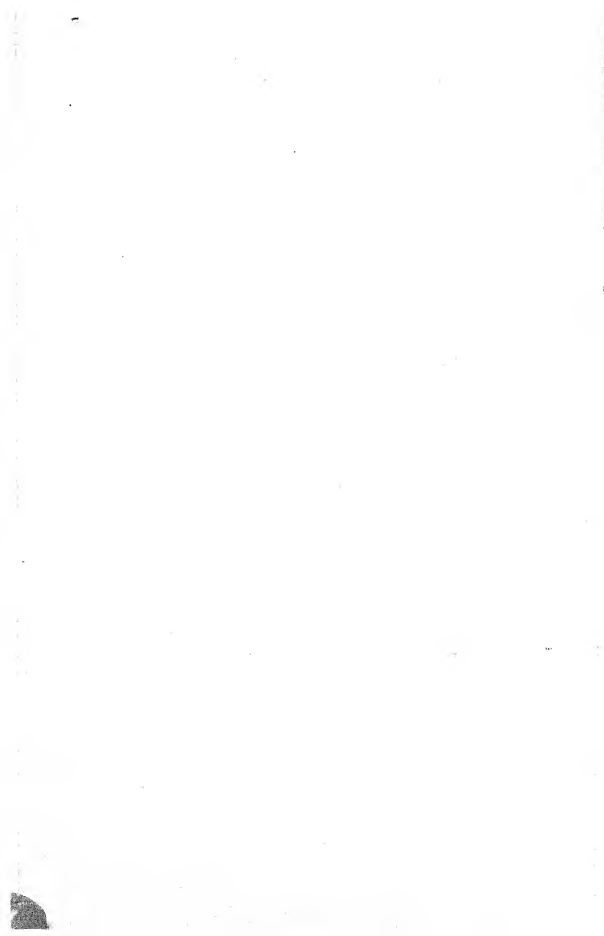
He entered Asia by crossing the Hellespont between Sestos and Abydos. He then moved on to Granicus (scene of a great battle), Sardis, Miletus, and Halicarnassus (long sieges), along the sea-coast by



University Press Cambridge

ALEXANDER'S EASTERN EXPEDITION.

E. W. Wilson, Cambridge



Phaselis, thence northward to Gordium and Ancyra, returning again to the coast of Tarsus, after passing the Cilician Gates, Issus (great victory), Tyre, Gaza, Pelusium, Memphis, Temple of Jupiter Ammon, Paraetonium, Alexandria, back to Memphis, and Syria, to Damascus, Thapsacus, Plains of Gaugamela, Arbela (great victory), Opis, Babylon, Susa, Persian Gates, Persepolis, thence northward to Ecbatana, Ragae, Caspian Gates, Hecatompylos, S. of Caspian Sea, Zadracarta, Susia (Meshed), Artacoana, Alexandria in Ariis (Herat), Phra, Kandahar, the Bamian Pass, or Panjshir River, Aornus, Baktra, the passage of the Oxus at the modern Kylil, Maracanda (Samarcand), Cyropolis on the Jaxartes, and back to Baktria. He then conducted an expedition to Bokhara, making the passage of the Indian Caucasus. He marched from the Choaspes River (Kunar) by the Suastes (Swat) to Attock, Taxila, Lahore, Amritsar, and the Beas, back by Mong, Tabumba, Multan, the Gedrosian desert, Karmania, Persia, Susa, and Babylon.

When Hannibal marched from Spain to the south of Italy (218—216 B.C.), his route was by Carthago Nova, Saguntum, the passage of the Ebro, Aquae Calidae, Roda, the passage of the Pyrenees, Portus Veneris, Narbo Martius (Narbonne), the passage of the Rhône near Avenio (Avignon), where he had a skirmish with Roman cavalry, passage of the Druentius, passage of the Isara, passage of the Alps—at the Little St Bernard, according to Polybius and Justice Bowen, by the Great St Bernard or Mont Genève according to others—Augusta Taurinorum (Turin), passage of the

Ticinus north of the Po (great battle against Scipio), passage of the Po, passage of the Trebbia south of the Po (great battle against Sempronius), across the Apennines, Parma, the marshes of the Arno, Faesulae (Fiesole), Arretium, Cortona, Lake Trasimene (great battle against Flaminius) Perusia, Spoletium, Asculum, Hadria, Teanum, Luceria, Cannæ (great battle against Aemilius Paulus and Varro in 216).

It is not without reason that so universal and vivid a remembrance of the Punic Wars has dwelt in the mind of man. They formed no mere series of battles to determine the lot of two cities or two empires, but a mighty struggle on the event of which depended the fate of two races of mankind—whether the dominion of the world should belong to the Indo-Germanic or to the Semitic family of nations.

The march of Nero against Hasdrubal¹, which resulted in the battle of Metaurus, is one of the finest strategical movements on record. Objections have been made that he ran a great risk of Hannibal discovering his absence and following in his rear. This is true, but Hannibal marching through a hostile country could not have gone very fast with the army of Apulia, which Nero had left, hanging on his rear. The distance, 270 miles, which by dint of the assistance of the entire population Nero accomplished in seven days, would under most favourable circumstances have taken Hannibal fourteen, or more probably twenty. Nero's calculations were based on the suddenness of his appearance in the north, and probably on confidence in his own military genius. He hoped to destroy Hasdrubal by

¹ See MacDougall's *Campaigns of Hannibal*.

one blow, sudden and decisive, and to return to Apulia in time to oppose Hannibal. War is a game of chance, and the general who risks nothing will gain nothing; his business is to reduce the risks to a minimum. Nero had time on his side, and time is a more valuable ally than any other. He took every possible precaution, particularly as regards secrecy, even keeping his own soldiers ignorant of their destination. His march is as perfect an example as can be afforded of the advantage of interior lines of operation. The obstacles which existed to the junction of the two brothers were created by the fact that they were operating on exterior lines. The obstacles themselves were the numerous armies interposed between them, and the consequent impossibility of concert.

There is something in Hasdrubal's conduct which is difficult to understand. If he was advancing confidently to attack 40,000 men, it does not clearly appear why he so suddenly changed his resolution. It is supposed that this was due to the knowledge that Nero was in the hostile camp, and the belief that therefore some disaster must have happened to his brother. Hasdrubal could only know of the arrival of Roman reinforcements either from the report of spies or his own observations. If from spies, they would certainly tell him that the Consul Nero had arrived, but they would also tell him of the very small force by which he was accompanied, which would show that he had left his army to watch Hannibal in the south, and dispel the idea of any great disaster to his brother.

On more than one occasion Hannibal violated the ordinary rules of war by placing himself in situations

which to men of less transcendent ability would have led to ruin. But he measured correctly the capacity of his adversaries and his own, and that which in another would have been rashness, was in him only the fruit of the most deliberate and just calculation. In this respect he resembles Alexander, and indeed all great generals. Alexander commenced the conquest of Asia Minor with a force little superior to that with which Hannibal descended from the Alps. He manifested the same ability in creating a base of operations and acquiring allies, or rather subjects, whom his policy retained faithful to him. As instances of his contempt of mere rules, Alexander fought the battle of Issus with a narrow pass behind him, and the army of Darius interposed between him and his natural line of retreat. Again, he fought the battle of Arbela having the Tigris, the Euphrates, and the desert in his rear, in the heart of an enemy's country, and having no depôt nearer than Tyre.

Before the time of Cæsar the Romans had some fighting in Gaul. An outrage upon the Roman commissioners sent to Aegytna¹ in response to an appeal from the Phocæan colony at Marseilles, led to the first crushing defeat of the Ligurians at the hands of the Romans, and indirectly to the founding of the first transalpine colony at Narbonne. From this base a series of minor campaigns won Provence for the Roman Government. But before the Romans were safely in the saddle all Italy was convulsed with the news of the approach of a vast horde of German barbarians called

¹ Identified with Cannes by Mr Hall in his *Romans in the Riviera*.

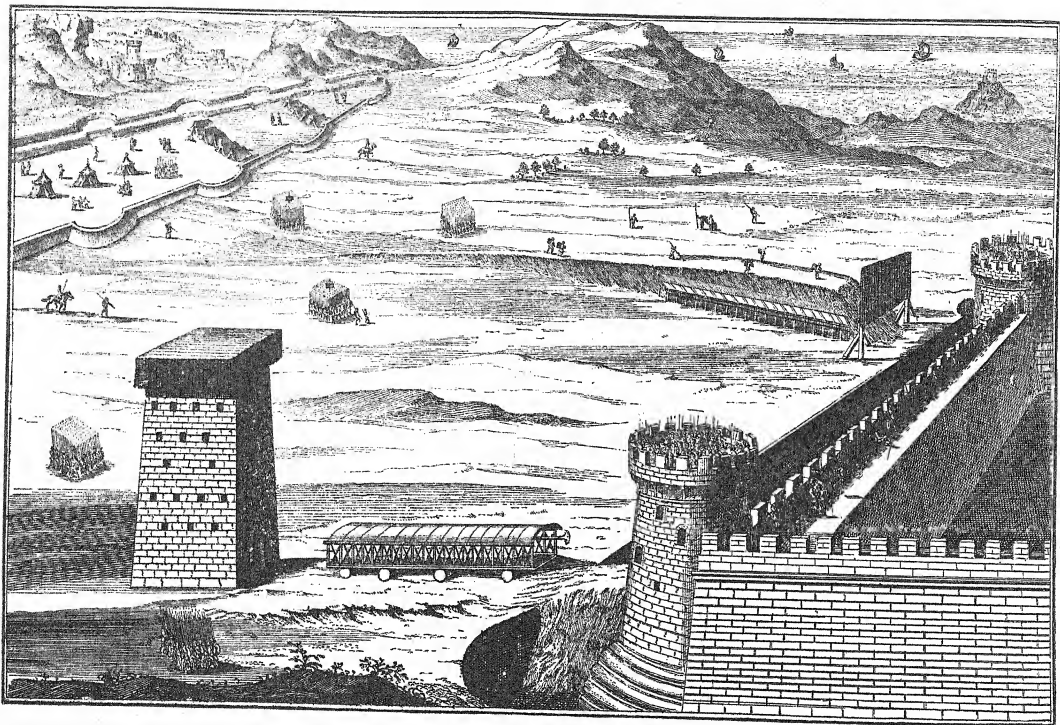
the Cimbri and Teutones, before whom five Roman armies in succession had gone down.

These tribes came from the Cimbric Chersonese, and were probably closely related to the Angli and the Saxones. They left their homes a little more than a century before our era. After ravaging Gaul, they defeated the Romans at Arausio (Orange) in 105 B.C., the total loss of the Romans being 120,000.

The Cimbri and Teutones are said to have amounted to 300,000 warriors, with their families and servants, probably not less than a million and a half of souls. The question of their commissariat is a problem for all ages. They had not come, like the Gauls, to swoop down upon Italy, and return home with their spoil, but were rather armed immigrants, bringing with them thousands of tented waggons, with their wives and children and all their possessions, to settle wherever they could find unoccupied land. After a sojourn in Spain they resolved to invade Italy and made the fatal mistake of dividing their forces. Marius, in his entrenched camp at the mouth of the Rhône, must have seen a picturesque sight as he watched the host of yellow-haired giants led by white-robed priestesses, with the sacrificial knife dangling from their girdles, defile before him. Of the momentous battle of *Aquae Sextiae*, which should rank high among the decisive battles of history, Mr Hall gives a spirited account, having carefully examined the battle-field at Pourrières (*Campi Putridi*). Here the Teutones were annihilated 102 B.C. In the following year the Cimbri, who had invaded Italy by the Brenner Pass, were destroyed by Marius after a gallant fight at *Vercellae*.

Cæsar's first command was when, at the age of forty, he went as proprætor to Spain in 61 B.C. and fought in Galicia and Portugal. Three years later, with four legions, he began his campaigns in Gaul, which lasted for nine years, crossing from Italy by Mont Genève in 58 B.C. At Autun he defeated the Helvetii, and he drove Ariovistus and his Germans across the Rhine near Mülhausen. In 57 B.C. he defeated the Belgæ north of the Somme, and the Nervii by the banks of the Scheldt and the Meuse. In the year 56, while he was in Italy, a great rising took place in the north-west of Gaul. He hurried back to his command, and then conducted a great combined naval and military campaign in Brittany against the Veneti, who were the chief maritime power in the neighbourhood of the Channel, and put an end to their supremacy. The details of this expedition would be worthy of study by modern strategists. He failed against the Morini, who had a strong position, probably between Bologne and Dunkirk. He then turned on the Tencteri, who dwelt near Bonn, and the Usipetes, who were near Düsseldorf, and destroyed them on the Gallic side of the Rhine, afterwards crossing the river near Cologne and resting for eighteen days on the eastern bank. In the same year he failed in Britain. In 54 B.C. he failed again in Britain, although he managed to cross the Thames. In this year there was a series of risings in Gaul. The camp at Aduatica (Tongres on the Meuse) was attacked and the troops cut to pieces by the Eburones of Belgium. The Nervii were ripe for revolt, but Cæsar arrived in time to check them. In 53 he exterminated the Eburones. The year 52 B.C. witnessed a universal and final rising of all the





To face p. 295.

SIEGE OF MARSEILLES BY CÆSAR, B.C. 49.

Univ. Press, Cambridge.

Gallic tribes against the Romans, the revolt being led by the illustrious Vercingetorix. The fate of Gaul was decided between the Arançon and the Auron. On the latter river Avaricum (Bourges) was sacked and its population put to the sword; at Gergovia (Gergoie near the Allier) Cæsar was defeated, and tribes hitherto loyal joined their national leader, Vercingetorix, who collected 80,000 foot and 25,000 horse at the hill-fort of Alesia (Alise) in the territory of the Mandubii (Côte d'Or).

After a celebrated siege, in which swarms of Gauls bent on relieving their chief frequently beleaguered Cæsar, the provisions of Alesia were exhausted and Vercingetorix surrendered. The last stand of the Gauls was made at Uxellodunum (Puy d'Issolu). Gaul became Roman in language, habits, and law, and in 51 B.C. was completely pacified. Civil strife, however, now broke out in Italy, and the Pompeian party aimed at Cæsar's ruin. He led a force into northern Italy, or rather Cisalpine Gaul, and though he had only one legion at Ravenna, in 49 B.C. he crossed the Rubicon, which divided his province of Cisalpine Gaul from Italy. This was a distinct act of war. Instead of marching straight on Rome he turned it by the east, by Corfinium and Aquila, while Pompey retired to Brundisium, and he only entered Rome when he was master of Italy. Before Cæsar could completely invest Brundisium Pompey had escaped to Dyrrachium (Durazzo). His next campaign was in Spain, where he defeated the lieutenants of Pompey, Petreius and Afranius, at Ilerda in Catalonia, and on his return to Italy he took Marseilles. He afterwards embarked for Greece, not being able to force Pompey's lines near Dyrrachium—then the

chief point of departure for a traveller in the East—and retiring into Thessaly was followed by Pompey, who reluctantly abandoned his base at Dyrrachium and was defeated at Pharsalia 48 B.C.

Cæsar then passed into Egypt, but his rival was no more. After the Alexandrian War he was hurried from the charms of Cleopatra to Zela in Pontus, where he defeated Pharnaces, and whence he sent his alliterative despatch “Veni, vidi, vici;” which has however been surpassed in brevity by Sir Charles Napier’s punning announcement of the conquest of Scinde—“*Peccavi.*”

From Egypt he hurried into Mauretania and defeated Juba, causing the younger Cato to commit suicide at Utica (Bou Shater). After a triumph in Rome he was obliged to hurry across the Pyrenees to defeat Labienus and the sons of Pompey at Munda in the extremity of Spain, between the Sierra Nevada and the sea. He went back to Rome, master of the world, to be assassinated in his 56th year.

Napoleon, in remarking on the campaigns of Cæsar, says:—“Cæsar’s principles were the same as those of Alexander and Hannibal—to keep his forces united; not to be vulnerable in more places than absolutely necessary; to throw himself rapidly on important points; to employ largely moral means, viz. the reputation of his arms, the fear which he inspired, and politic measures calculated to preserve the attachment of his allies and the submission of his conquered provinces.”

The principal westward and southward invasions in the 4th and 5th centuries A.D. were conducted by the following races:—

The *Alans* or *Alani*, a tribe who came from the neighbourhood of the Caspian Sea, where they were defeated and dislodged, or rather pushed forward, by the Huns in 375. They migrated in a straight route, due west, through southern Russia, Roumania, Hungary, Austria, and Germany to France, and turning southward crossed the Pyrenees into Spain, where they were finally defeated and submerged by the Visigoths, in 418. They are supposed to have been associated with the Vandals and the Suevi.

The *Huns*, a Mongolian tribe¹, perhaps originally from northern China, replaced the Alans on the borders of the Caspian, defeated them in 375, subjected many minor tribes, and conquered practically the whole of Middle Europe. They were defeated in 451 at Châlons by a combined army of Romans, Franks, and Visigoths, but were yet able to invade Italy in the following year. They disappear from history soon after Attila's death (453).

The *Goths*, divided into three principal tribes, Visigoths, Ostrogoths, and Gepides, are of the Teutonic race, and came originally from southern Scandinavia. The *Visigoths* established an empire in the present Moldavia and invaded the Balkan Peninsula frequently. Under Alaric they invaded Italy. Finally they came to France (417) and Spain, where they beat the Alans and Suevi, and established an empire that lasted until the advent of the Arabs (712). The word Visigoth is a corruption of the German "Westgothes," *i.e.* Western Goths. The *Ostro-*

¹ Prof. A. H. Keane regards the Huns as "a heterogeneous collection of Mongol, Tungus, Turki, and perhaps even Finnish hordes under a Mongol military caste." *Man: Past and Present*, p. 305.

goths appeared in Bulgaria about 460, conquered Italy in 493, established there a great empire under Theodoric, and were defeated and wiped out by the Eastern Romans in 553. Ostrogoth is a corruption of the German "Ostgothen," *i.e.* Eastern Goths. The *Gepides* settled in Wallachia, and were defeated and superseded by the Lombards in 560.

The *Lombards* or Longobardi, a Teutonic tribe, are said to have come from the Baltic coast (Mecklenburg and Pomerania). They migrated southwards, and after defeating the Gepides in Wallachia invaded Italy in 568, and established there an empire which lasted until 774, when it was destroyed by Charlemagne.

The *Vandals*, also a Teutonic tribe, came from the Baltic (the present provinces of West Prussia, and parts of Pomerania and Brandenburg). They migrated southwards, first into France, then through Spain into north-west Africa. By the conquest of Carthage in 439 they established there an empire which soon grew into a maritime Power of the first rank, under the great chief Genseric. In 455 the latter invaded Italy, and conquered and sacked Rome, returning afterwards to Africa. The Vandal Empire was destroyed by the Roman general Belisarius in 533.

The *Burgundians*, another Teutonic tribe from the eastern Baltic, settled in eastern France about 413, and were subjected by the Franks in 536.

The *Suevi*, also from the eastern Baltic, invaded Spain in company with the Alans (409) and established an empire in the present Portugal and north-western Spain, which was destroyed by the Visigoths in 582.

The *Franks*, a confederation of German tribes, located

between the Rhine and the Weser, crossed the former about 420, and established the empire of France, which has practically lasted to this day.

The *Anglo-Saxons*, from the mouth of the Elbe and Weser, invaded England in 465, and have remained there up to this day.

The *Saracens* (*Arabs*) invaded the whole of North Africa from Arabia between 630 and 700, crossed the Straits of Gibraltar, and destroyed the old Visigoth Empire in Spain in 712. The Arab Empire of Spain lasted 780 years; Granada, the last Arab stronghold, falling in 1492.

The *Magyars*, a Turanian tribe, successors of the kindred Avars, appeared in Europe in 804, having come from the Ural districts. Their westward migration was checked at Merseburg in 933 by the Emperor Henry I., and again in 955 on the Lech by Otto the Great. They settled finally in Hungary, which they inhabit at the present day.

To the Magyars in the westward march of races succeeded the *Osmanlis* or Turks, who appeared in Europe in 1353 and completed the conquest of the Balkan peninsula in 1453 by the taking of Constantinople. The westward migration of the Turks was brought to a stop at Vienna in 1683, and they were then gradually pushed back to the Balkan peninsula. The displacement of the Turks has not yet ceased.

The territory north and south of the Caspian Sea, Smyrna, the Bosphorus, Bokhara, and the Oxus and Jaxartes, the passes of Central Asia, Anatolia, Bactria, Badakshan, the feeble defences of China—outside the range of practical politics and ignored in every European

capital for 440 years after the death of Tamerlane—are now eagerly discussed in every Foreign Office and every intelligence-department from London to Moscow. But instead of the cavalry of Tartary surging in myriads around the eastern boundaries of Europe and the shores of the Levant, in our generation isolated detachments of Europeans, borne in ships mightier than all the naval resources of Constantinople at their best, and armed with weapons infinitely more destructive than Greek fire, are now planting themselves on the Asiatic coasts.

A geographical sketch of the marches of Alaric, Attila, Jenghis Khan, Timurlane, and Bonaparte will suffice to justify the proposition that strategy is a simple science, easily comprehended by any intelligent man who applies his mind to it, whatever the deficiencies of his early education; that no profound knowledge even of geographical details is necessary for successful invasion, that the main lines of road, railways, and strategic marches are always the same, and that the principles of the art of war are unchangeable.

Compared with later invaders of the Western and Eastern Empires Alaric was a mild and chivalrous conqueror. He could be bought off, and could be cajoled; moreover as one of the new converts to, or admirers of Christianity, he treated the shrines of Rome with respect, and in all his dealings was far more honest than the treacherous and scheming cowards and assassins who governed the Empire of the Cæsars in its decline. But he was the first to show the Barbarians the road to Rome, and to expose the political, moral, and military decay of the Italians, who had not only lost the courage and

hardihood of soldiers, but dared not engage in any military operations without the aid of warriors from the Rhine and the Danube. St Augustine preferred the Goths to the Romans, and declared that Alaric was an instrument of God's justice against a city which had become the mother of every error and every vice.

Descended from one of the noblest families of his nation, we first find Alaric employed by Theodosius against the Huns in 395 A.D. He afterwards engaged as a mercenary in the civil wars, but neither he nor his people were satisfied with Thrace as a recompense. He soon ravaged Macedonia and Thessaly, destroying in his Christian zeal all the works of paganism, from the Vale of Tempe to the Morea. Stilicho, one of the best of generals, for a while checked his career, but he was soon master of all Illyria, and therefore of the mountains which intervene between the Danube and north-eastern Italy. He started for the invasion of Italy 400 A.D., sacked Aquileia, took Milan, was again checked by Stilicho, but appeared before the capital, marching by the Via Flaminia, in 408. He was bought off a second time, but the feeble Honorius could neither destroy the Goths nor act fairly towards them, and Alaric again marched on Rome and captured it, in 410, and for three days the Romans witnessed helplessly the utter destruction of all the riches which had been gathered together during centuries of triumph. Fearing that his soldiers might be corrupted by a long stay in Rome he hurried from it, ravaged Campania, Apulia, and Calabria, and was preparing an expedition to Sicily when he died at Cosenza, and was buried with his treasures in the bed of the Busentinus. His soldiers

killed all the captives who had diverted the course of the river and prepared his tomb.

Attila, son of Mandras, when he became king of the Huns, whose chiefs had divided up Hungary and Scythia, shared his power with a brother, Bleda, and levied tribute on the weak emperor Theodosius II. Having gained the confidence of a nation of warriors, and pretending to have secured the sword of their divinity, he got rid of his brother, and soon his sway was acknowledged by all the martial races who longed to be led once more to the spoil of southern Europe and western Asia. Remembering the days of Alaric, Vandals, Ostrogoths, Gepides, and some Franks served under his banner; nor did the fact that members of the same tribe were in Roman pay and ready to resist him affect his plans. The Hun aimed at universal empire, though not for luxury and licentious enjoyment. He never had a palace, he erected no temples, no monuments such as hand down to posterity the memory of the Central Asian conquerors: his head-quarters were a simple cabin by the banks of the Danube near Komorn, surrounded with captured trophies. Collecting together some 700,000 hardy soldiers, he proposed to spoil Persia, having heard rumours of its ancient opulence. A long march around the north of the Black Sea brought him into Armenia, where he was thoroughly defeated. In truth his first adventure was a mistake, whether strategic success or the probability of booty be considered. His next campaign was a very profitable and much easier enterprise. Having mastered Illyria, his followers laid waste all the Balkan peninsula from the Adriatic to the Black Sea, and would have taken Constantinople, only

none of his chiefs understood the art of conducting sieges. During this raid he destroyed seventy flourishing cities. Before invading Italy he led his hordes through Franconia and passed the Rhine. The terrified Gauls fled into the forests and mountains, and he reached Orléans with impunity. Here the inhabitants stood a siege, and as the Romans under Aetius and the Goths under Theodoric were marching to raise it, he feared for his line of communication and retired to Châlons-sur-Marne, where occurred a justly celebrated engagement—one of the fifteen decisive battles of the world. The Gothic leader was killed, but by a skilful use of the reserves his son Thorismund won the day. Attila fortified his camp and prepared to destroy his booty in case of another defeat next day, but Aetius did not attack, and he retired across the Rhine. His retreats under the most desperate conditions were models of this branch of the art of war, and enhanced rather than diminished his reputation. According to some historians 160,000 dead covered the plains of Champagne. But a similar number of Napoleon's conscripts in 1813 were left by the banks of the Elbe, and yet their sovereign never won more glory than in 1814 in the theatre of Attila's reverse.

As the champion of Honoria, sister of the emperor Valentinian, who wished to marry him, Attila next invaded Italy, upon which he laid the scourge of God with a heavy hand. Aquileia, Padua, Vicenza, Verona were soon in flames; the fertile fields of Lombardy were wasted; the terrified inhabitants of both banks of the Po fled into the Alps and the Apennines, or to the lagoons of the Adriatic, where the fugitives from Venetia founded Venice. Milan was taken, and an artist was

employed to celebrate his successes, even as when Napoleon conquered the same city he erected his own statue among the effigies of Adam and the saints and prophets on the pinnacles of the cathedral.

Why he did not storm Rome is hard to say. It is not likely that Saints Peter and Paul, as Raphael has pretended, would have protected a city which was the mistress of all the vices. Certainly Pope Leo risked his life to plead for his flock; but Attila would have paid little regard to the sanctity of an ambassador unless it suited his policy. A large sum of money was a more powerful intercessor, and the prudent Hun was always cautious about his rearward line. It was a far cry from the Tiber to the Waag, and if foiled before Rome his troops would perish for want of food, for northern Italy was as desolate as was the road from Adrianople to the Danube in 1878.

Attila tried another campaign in Gaul, but was beaten. In his simple home he forgot his championship of the daughter of the Emperor. He found among the daughters of barbarism a far more fascinating temptress, and the night of his nuptials with Ildico delivered humanity from one of its most relentless persecutors. His empire passed away into obscurity; even Hungary does not derive its name from his followers, though it does from his race.

CHAPTER XIII.

HISTORIC LINES OF INVASION (*continued*).

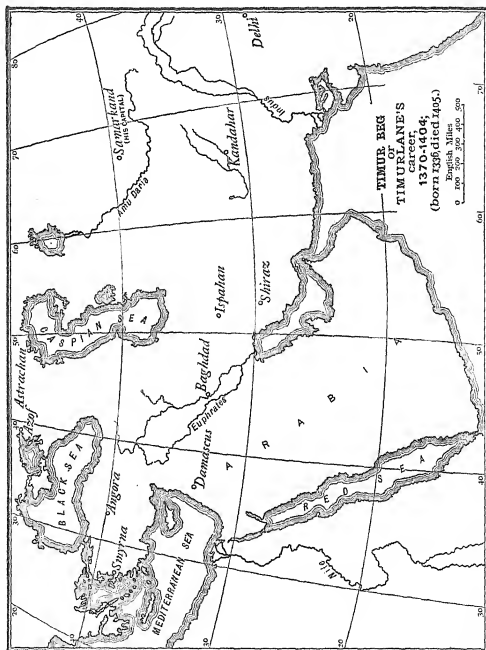
ZENGHIS KHAN, or Jenghis (son of Pisoukai, chief of a Mongol horde), and his descendant, Timurlane or Timur-Beg, the former born in 1163 and the latter in 1336, emerged from Central Asia between the Oxus and the Jaxartes, to the horror of all men who dwelt in the vast territories extending from Poland to Peking, and from the Hellespont to Delhi. To follow in detail the marches of their ever-victorious armies would be to give a complete topography of all the passes and roads to be found in these regions, and to describe the siege of every city which contained enough booty to tempt the avarice of their followers. No civilization could cope with their barbarism; no general of other fighting races, Moslem or Christian, Tatar or European, could match their military genius, the rush of their cavalry, and the skill of their tactics. Not even the dauntless Ottoman Turks, under their brilliant leader, the Sultan Bajazet, could arrest their progress. But their empires depended on themselves and broke up immediately after their deaths.

The career of Jenghis for twenty-six years was one continuous series of triumphs and conquests, atrocities and massacres, destruction of cities and laying waste of

rich provinces, which have never since recovered a tithe of their former prosperity. All the works of art and invaluable libraries in the numerous and flourishing cities between the Oxus and Euphrates were broken to pieces or burnt. Any resistance to the will of this well-educated savage, or of his extremely able, brave, and cultivated sons and generals, meant annihilation. His motto was, "The only way to make peace with an enemy is to destroy him." From his head-quarters at Karakorum he marched his legions—numerous as any of the four German armies that conquered France—south, west, and east, backwards and forwards. Having consolidated his authority over his own race, he began his career of foreign conquest by taking the territory of the Uigurs. In 1209 he passed the Great Wall, and in 1215 sacked Peking, and burnt it for a month. In 1218 he was in Turkestan, fighting a drawn battle against the Kharismians. In 1220 Bokhara and Samarkand were stormed, sacked, and burnt; yet their 300,000 victims and the disappearance of the greatest library in Asia did not satiate the destructive fury of the Mongol chief. Next year Balkh, which had kept alive some of the glories of the old Persian satraps, was in flames. The men, women, children, and animals of Bamian were slaughtered to avenge the death of one of his grandsons. In a few weeks Khorasan was overrun. Herat held out for six days, and the horrors which followed its capture sent a thrill through even the Mahommedan peoples of the East, well accustomed to traditions of brutality on the part of kings and conquerors and priests. Derbend was passed, and Russia and its defenders driven to the Dnieper in 1223. Returning to Central Asia, Jenghis

was with difficulty persuaded not to carry out his design of annihilating all the agricultural and manufacturing population of China, so as to give more space for a nomad race of horsemen. He traversed the Gobi desert in 1226. He then besieged and took Nirghi, the capital of Tangut, and destroyed 90 per cent. of the people of this hitherto prosperous and powerful state. This was his last feat; he died aged 66, and was buried in Tangut, having become absolute master of the territory from Kiev to Peking, an extent of nearly 4,000 miles, and having built up his empire at the cost of at least 5,000,000 lives. Some of his descendants are still princes in Turkestan. Another ruled in the Crimea till Catherine of Russia annexed it in 1783; and Holagou and Kublai, his grandsons, won high places in history for themselves.

But none of the Tatar or Mongol race was as celebrated as the lame Timur-Beg or Timurlane. He was born near Samarkand in 1336, and after the best education that his philosophical father Fargai could give to a young Mohammedan chief, in the way of military exercises, horsemanship, the chase, and the Koran, he soon began to play a leading part in the disputes which agitated every part of these realms, and had only been restrained by Jenghis Khan himself and his immediate successors. Young Timur led a romantic and wandering life of adventure for some time before settling down to his regular career of conqueror and slaughterer. He began with delivering Samarkand. In a battle near Siestan he was so wounded as to be maimed and lamed for life. He drove the Khan of Kashgar out of Transoxiana. He took Balkh, the fortress of his brother-in-law Hassan, who was killed and his sons burned in the citadel. He



was enthroned emperor of Djagatai in 1370, and fixed his capital at Samarkand, which he embellished with mosques, palaces, and hospitals, and made a brilliant centre of literature and the arts. He passed the Jaxartes and made himself master of Kashgar, and conquered and destroyed the territory of the Kharismians in 1371. He next attacked Khorasan, stormed Tashkend and massacred its people, and took Herat, which he plundered to the very gates. He began here his curious and horrid custom of erecting monuments of heads; and after the capture of Setzwar he murdered all the inhabitants, except 2,000, whom he used to make towers, heaping them alive one over the other, and fastening together the monstrous edifice with bricks and mortar.

In the same year, in person or by his warriors, he covered Siestan, Afghanistan, and Khotan with ruins and corpses. In 1384 he utterly destroyed Asterabad. He rested for a few months in his capital, and starting in 1386 for Georgia, took Kars and Tiflis. Year after year the Tatars perpetrated atrocities in this Christian kingdom, but they were impartial, for they were even more cruel to the followers of their prophet in Persia and in Syria, and overran Armenia, then ruled by Turkomans. In 1387 Timurlane reached Ispahan, in Persia. As some of his soldiers perished in a chance riot in the city, he ordered 66,000 heads to be carried to the ramparts of the town, where they were registered and built up into towers. In the following year he drove any of his enemies who remained in eastern Tartary beyond the Irtysh. In 1390 he again depopulated Kharismia, destroyed the capital, sowed barley over the soil, and carried off the people to Samarkand. As his

next task he resolved to conquer the Tatar empire of Kiptchak, which had been founded by Jenghis and stretched from the Dnieper to about 100 miles north of Tashkend. He was now fighting a brave Moslem adversary, led by the able Toktamisch. Had Timurlane not undertaken this desperate and well-nigh fatal enterprise, the present empire of the Tzars could never have been developed, and the crescent of Islam would have superseded the cross in all south-eastern Europe. After a terrible march lasting four months—in which his men, having lost touch with regular supplies almost as completely as those of Napoleon in 1812, lived on herbs and the eggs of wild-fowl, helped by the products of the chase, like Wellington's army after Talavera—he routed Toktamisch between the Yaik and the Volga, and rested on the banks of this river for a month. He seated himself at Serai on the throne of the Khans, and returned to his capital. He left it again in 1392, and next year having ravaged Kurdistan, he advanced against Baghdad, which he took, as also Basra and Mussul. As Toktamisch again proved troublesome, he massed 400,000 men for the ruin of what is now southern Russia. He traversed safely the tremendous defile of Dariel, half way between the Black and Caspian Seas, and crossed the Terek. Some say he sacked Moscow, but of this there is a doubt. Ordering his grandson to devastate the western provinces of Russia and Poland, he returned, razed Serai and Astrakhan to the ground, and reduced their citizens to slavery, carrying off all their wealth. But as was the case 417 years later, the climate and the solitudes of Russia took vengeance on the invader, and no amount of booty could compensate the nomad chief

for his terrible losses in men and money. After being away for five years he returned to Samarkand, still further wasting what was left in Georgia on his route.

Exhausted as was his army he had no difficulty in recruiting its ranks, especially as the loot of Hindustan was next offered to the children of the desert. His cavalry comprised the best horsemen of Asia, in number 80,000, and his way over the Hindu Kush and the mountains from Kabul to Herat was explored and cleared by an advance guard under Mohammed Djihanghir, who had long lowered over the north-west borders of India. This march was one of the most marvellous in history, and is well worthy of careful study in full detail by every British strategist. It was the model for Skobelev's proposed raid on our Empire. In the midst of snow-clad passes Timurlane found his progress delayed by pagans who claimed the Macedonian soldiers as their progenitors, and whose descendants between the Swat and the Panjshir are now under British rule. The climate and rocks and scarcity of forage were fatal to a large proportion of his horses, but after six months he reached the Indus. From this ancient base of operations he soon mastered Delhi, but as he found his movements checked by myriads of captives and followers, he massacred 100,000 of them before committing himself to a decisive battle with the Sultan Mohammed. Similar cruel deeds, from similar strategic reasons, were committed in Syria by Bonaparte, and the negro followers of Sherman were left on the wrong side of a river during the latter's march to Savannah. The sack of Delhi in 1299 and the marvellous stores of wealth which were carried back to Tartary have ever since been part of the

folk-lore of all the tribes from the Altai Mountains to the Caucasus. They would gladly welcome the cruelty of another Timur who would conduct them either around or over the "Roof of the World" for a year's riot by the banks of the Ganges—a far more profitable avocation than seeking scanty pasture for their flocks and herds on their own side of the mountains.

Having exterminated some myriads of Indian idolaters on both banks of their sacred stream, Timur returned home to pay homage to his prophet by the erection of a magnificent mosque in 1399. Georgia gave him some trouble again, though its people strove in vain, but he had soon to turn his attention to the Ottoman Turks, who, having conquered almost all the territory of the Grecian Empire except Constantinople itself, were in no mood to submit to the dictation of a wild chieftain from Central Asia, the home of their own ancestors.

Western Christendom has of late been singularly out of touch with the true interests of the East, and denunciations of the rule of the Turks current since 1876 have had no historic foundation. In 1400 the forces of Bajazet, in Asia Minor, were even more certainly the outposts of Christian Europe than Antwerp, Ostend, and Belgium at large have been outposts of Great Britain. The effeminate and despicable rulers of the Greek Empire would have gone down without a struggle before the masterful Tatar, but the Turks challenged him, and, though defeated, did not yield without heroic efforts which made the battlefields of the campaign 1400-1404 among the most remarkable in the military annals of mankind. The scope of this book prevents details of tactics on the mightiest of fields, but the reader would

be well advised if he perused the glowing pages of Gibbon, who is at his best when describing this war of giants. As usual, Timurlane took the initiative; at Cæsarea in Asia Minor he cut in pieces the army of the son of the Ottoman Sultan. He besieged and took Siwas, and buried alive 4000 wretches who garrisoned its citadel, but he turned aside for a short period to conquer Syria, then governed by the Mamelukes of Egypt. When his soldiers were building towers of human heads after the sack of Aleppo he discussed questions of theology and ethics with the savants, whom he always spared. He took the venerable Damascus by a ruse and burnt it. It is a maxim of strategy not to stretch a line of communications too far, especially if on the flanks are competent adversaries; thus Timurlane, who had like Napoleon an instinctive genius for war, was careful not to go too far into Russia in his previous campaigns, in which respect he was more astute than Napoleon, and with the Turks in front he also wisely abstained from going too far south and following the beaten Mamelukes into Egypt. This would have led to surrender in case of defeat, and outraged humanity would have applauded the Mamelukes if they had supplemented the immortal tombs of the Pharaohs by another pyramid composed of the bones of himself and his followers.

Before marching against the Turks in Asia Minor he turned from Syria to the Euphrates. His tents soon covered the environs of Baghdad. On the 9th of July, 1401, the home of the Caliph began to experience the terrors of obliteration. For eight days the Tatars were employed in massacre. Crowds of despairing Moslems

rushed into the river to escape a doom far more terrible than that whereby, many centuries before, the Medes and Persians eclipsed the grandeur of Babylon. Mosques, colleges, hospitals, all disappeared. Not a trace was left of the monuments by which the Abbasides had hoped to win the respect or the pity of posterity. Instead, 90,000 heads were piled up in 120 towers—paltry and perishable records as compared with the hanging gardens and the palaces of Sardanapalus. The Tatars then left the valleys of the Tigris and the Euphrates, which have ever since been the synonyms of greatness buried in ruins.

If any power could have conquered our awful hero it would have been the Ottoman Turk. Timurlane took up winter quarters on the Araxes, and hurried up recruits from all parts of his empire till his army was 800,000 strong. He advanced in the spring of 1402 and laid siege to Angora. The magnanimous ruler of the Turks came to the relief of the place with 400,000 men. Then took place a tremendous battle, equal to Leipsic, far more dreadful than Borodino or Gravelotte. To condense Gibbon's narrative would be to spoil it. Among the peculiarities of this fight was the use of Greek fire on land, and the large herd of elephants which Timur had brought from India. The Turkish army was cut to pieces, Bajazet as a prisoner was brought before his invincible foe, who burst into a fit of laughter—not to insult his captive, but at the caprices of fortune, which had enabled a half-blind cripple to become master of the Eastern world. Smyrna had resisted the Turks for seven years, but in spite of the skill and bravery of the Grand Master of the Hospitallers, Philibert de Naillac, it was taken, sacked, and the people massacred to a

man, and Timurlane returned satiated with success to Samarkand in 1404.

All Europe was aghast—if the Turks had joined their Asiatic co-religionists its civilization would have been doomed. Vienna, Augsburg, Paris, and Rome would have shared the fate of Aleppo, Baghdad, and Smyrna. But the Turks joined the Greeks, and both patrolled the Hellespont and the Bosphorus. The wild horsemen of the steppes gazed with vain covetousness at the wealth and the glories of architecture that surrounded the Golden Horn, but they could not cross the Straits, they had no boats.

Napoleon's corps were in a like position in 1804. They saw the white cliffs of Albion, but the Channel was closed to them, and they had to transfer their eagles from Boulogne to Ulm. So Timurlane, despairing of a raid into Europe, returned to Samarkand, in the decoration of which he employed the cleverest artists and masons of Persia and Syria. The new buildings by the banks of the Oxus served to remind the exiles of the splendour of their own early homes by the Abana or the Euphrates.

To-day the desert has in turn covered the villas of the courtiers of the merciless conqueror, and chieftains from the banks of the Volga and the Don govern with an iron hand amidst the scattered columns and dilapidated walls of his Imperial Palace. "But quiet to quick spirits is a hell," and this was the bane of the great Tatar, as it was to be the bane of the great Corsican. Alexander wept because there were no more worlds to conquer. Timurlane declared "As there was only one God in Heaven, so there ought to be only one Emperor

on earth," and "What is the earth with all its people to a ruler such as I?"

Europe being out of the question he resolved to conquer China. His fiery zeal would not wait for spring; he set out from Samarkand in February, though the ground was deep with snow, and before long the cold made great gaps in the ranks of his 200,000 cavalry. "Tempted Fate will leave the loftiest star"—he got a fever and died at Otrar in 1405 at the age of 69.

A study of his career, and a simultaneous study of the newspapers and magazines of to-day show that in strategic geography there is nothing new under the sun, and almost suggests that Plato's theory of the recurrence of events at regular epochs has been justified by history.

The campaigns of sovereigns like Charlemagne, Gustavus Adolphus, or Frederick the Great; or of servants of their State like Turenne, Marlborough, and Suwarrow, bear no resemblance to the operations of "world-conquerors" either in regard to their objects or their conduct. But with the success of the French Revolutionists over the old monarchy and aristocracy a new power, as terrible as any horde of Goth or Hun, appalled Europe, and for twenty-two years war ravaged the land from Egypt to Denmark, and from Gibraltar to Moscow. Jenghis Khan's operations cost 5,000,000 lives, but 2,000,000 Frenchmen alone perished in 20 years. The "Liberty, Equality, and Fraternity" of France and its hero Napoleon cost £4,000,000,000. The Sultan Suleyman, though the terror of his time, was a benefactor of his species compared with

the Republican General. The ferocity of the Tatars against fellow Moslems was mild compared with the atrocities which characterised the early excesses of the French Reign of Terror. Alaric was a polished gentleman compared with Bonaparte. The Huns had a heart, as had Cæsar; the Corsican was all mind, but a mind the most capacious in comprehension, and the quickest in apprehension of which history has left a record. We must pass over the marches of generals like Pichegru, Jourdan, Moreau, all very excellent, but relating to local rather than to general strategy, and come to Bonaparte himself. We cannot here dwell on the strenuous studies and the intrigues and difficulties of his career before, as the queller of a Parisian insurrection, he had earned a right to promotion. For our purpose it is sufficient to deal with his movements from the period (1796) in which he was in command of the Republican army in Italy. Henceforth to follow his career is to trace on the map the main strategic routes of Europe. It is always better to begin the study of a series of military operations by a general view of military geography and then to go back to the local topographical incidents and the details of battles. The strategy of the theatre of operations should always take precedence of the battle-field.

Bonaparte's first manifestoes in Italy, when he took command of the half-starved republicans of the Riviera, might well have been copied from the speeches of Attila to his Huns—"Soldiers you are naked and ill-fed. I will lead you into the most fruitful plains in the rich provinces; great cities will be in your power." He soon had separated the Austrians from the Sardinians by the

fighths of Montenotte and Mondovi. Eighteen days later, April 28th, 1796, the former gave up the war and their principal fortresses. The Po was crossed at Piacenza, Milan occupied, and by June Lombardy had been subdued and thoroughly well plundered by "contributions." Mantua was invested in July, and was taken in January, 1797, in spite of all the Austrian efforts to relieve it. Bonaparte now did as he pleased, independent of the Parisian government, to which he sent plunder from time to time. He also enriched his officers and men at the expense of the Italians.

Again, in February, 1797, the Papal territories were overrun, Leghorn was seized, though in a neutral state, and English property confiscated. A campaign was conducted in the continental part of Venetian territory. Venice itself was taken and a system of plunder instituted, the best pictures and statues of Italian towns being transferred to France. His next move was towards the north-west of Venetia. He drove the Archduke Charles from the Tagliamento to the Julian Alps and marched on to Leoben, while Joubert, commanding the Brenner Pass, was threatening the Austrian right by the road to Villach. This was a brilliant campaign, and proved that the historic and geographical researches of the young warrior were profound. He treated the French Corps Legislatif even more strenuously than Cromwell treated the Long Parliament. All feeble or factious republican Parliaments are at the mercy of the first successful and popular general who pleases to abolish them.

A lull followed the Peace of Campo Formio, 1797, but during this year the plan for invading England failed, and

the navies of Spain and Holland allied to France were destroyed. Bonaparte's expeditions to Egypt and Syria, 1798, were based on colonial and maritime considerations relating to England alone, and in no way concerned European policy except in so far as his absence, by depriving France of her best general and army, enabled the Austrians and Russia to reconquer Italy, and in spite of the admirable strategy and tactics of Massena in Switzerland to threaten an invasion of France from the Riviera, Turin, and the Black Forest. When he returned, he got rid of all political complications and put an end to a worthless form of government by a *coup d'état*, and as First Consul set to work to drive the Austrians not only out of Italy but, with the aid of Moreau, out of southern Germany also. French troops suddenly appeared in May at all the passes of the Alps, Bonaparte's own road being by Geneva, St Bernard, Aosta, Vercelli, Milan, Piacenza, Marengo. He was in Geneva, May 9th, and after astonishing and reckless—but successful—strategical movements, he was back in Paris before the end of June. But it was Hohenlinden, rather than Marengo, which caused the Austrians to make peace at Luneville, 1801. His naval preparations against England and the organization of his army at Boulogne occupied his attention for a few years. But the invasion, probably seriously intended, was utterly impossible, and in 1805 his corps marched by all the leading passages of the Rhine—Augereau on the right, and Bernadotte on the left—to the Danube, around Ulm, which was taken, and to Vienna, and thence to Austerlitz.

It is strange that a man who, not only in warlike

affairs, but in every department of political life, had such a clearness of view that Marmont and others of his ablest associates regarded his prescience as almost divine, should have utterly misunderstood the strategic and commercial position of the United Kingdom. It seems that naval strategy had not been within the range of his early studies, and after he became a power in the world he had no Mahan at his elbow. Yet he was quick to observe any mistake on the part of our Admiralty, such as the temporary withdrawal of the fleet from the Mediterranean, and he managed at least as much by reason of his own astuteness as by the skill of his naval officers to deceive and elude Nelson in 1798, to carry a great expedition to Egypt, to traverse the Mediterranean with safety on his return next year, to deceive our naval authorities in 1805, and to escape our cruisers again in 1815. He also was a hearty admirer of the physical and moral excellences of our sailors. Yet all his schemes against the United Kingdom from 1803 to 1812 were based on ignorance of the true state of affairs, as for examples his armed neutrality, 1801, his invasion schemes, 1804-5, his continental system, 1806, and above all his policy as embodied in the Peace of Tilsit, 1807. It is difficult to understand his rupture with our kingdom in 1803, and the violent and unprecedented methods which led to it. "Had he remembered the teaching of his favourites Plutarch and Polybius, he could not have blundered in such a disastrous fashion."

Professor Seeley has asked, "Why he engaged in a war in which he was condemned to be so purely passive?" There is no answer available. And the next sentence of Seeley's criticism is beyond question.

"In eleven years of war Napoleon was never able to strike a single blow at England, while that enemy destroyed his fleets, conquered his colonies, and by arming all Europe against him at length brought down his power." As the sea was closed to him he began to contemplate an overland march to India, and notwithstanding all his European cares found time to negotiate with Persia. The year 1806 witnessed the wonderful campaign whereby, starting from the Main between Baireuth and Würzburg, October 7th, he crushed the Prussians on the Saal at Jena and Auerstadt, October 14th, and reaching Berlin on the 25th, seized the Oder on the one hand and Lubeck on the other, and crushed Prussia out of an independent existence by November 7th. The fortresses of the Vistula from Warsaw to Thorn next fell. The Russians retiring from the Ukra into East Prussia were defeated February 8th at Eylau, but frost suspended operations for months. Meanwhile Dantzic was besieged, and fell in May. In June Napoleon gained such a victory at Friedland that a peace with Russia followed, the treaty being signed at Tilsit on the Niemen. The Czar became the friend of the Corsican, who for five years more was master of all Europe except the Iberian Peninsula. It seemed as if he would have found it an easier prey than it had been in the days of Hannibal, Tarif, or Peterborough. Junot took Lisbon, and the Emperor himself took Madrid in December, 1808, but the British appeared on the scene. Napoleon compelled Sir John Moore to retreat, but, as he was recalled to South Germany, the Peninsula became the grave of the reputations of his Marshals and the commencement of his own ruin.

However, the end was not yet. In 1809, on the Danube, his corps in a few weeks carried their eagles from Ulm to Ratisbon, nor could the Archduke Charles with all his superior advantages on the Isar prevent the victories of Landshut and Eckmühl. He was at Vienna May 10th, and by July 6th the Austrian resistance was at an end. The triumph of Wagram more than compensated for the check at Aspern.

His second marriage with a Hapsburg princess conveyed no idea of domestic repose to Napoleon. He was no Alexander; his own descriptions of his endless labours while apparently he rested for two years,

"were a school

Which should unteach mankind the lust of reign or rule."

Not much strategy or geography, however, can be learned from his Russian campaign of 1812. The Niemen, Wilna, the Beresina, Smolensk, Borodino and Moscow showed no strategy on either side. Slaughter, scarcity, and fire made havoc during his advance; starvation, frost, and snow, during the retreat. The whole campaign was a terrible mistake, and during its course both the science and art of war were lacking. The conquering Russians suffered as much misery as the defeated French. The conflagration of Moscow was a boon to Russia as an awful warning to all future conquerors that the children of the Czar can never be subdued till the bonds of their community be shaken. France received again its emperor without his army, but in no degree crestfallen, and in 1813 on the Elbe his genius was serene against the coalition of Russians, Prussians, and Austrians. He struggled hard, but in vain, between the Elbe and the Oder. He was not beaten

at Dresden, August 26th, but he was ruined at Leipsic, October 18th, the most tremendous European battle since the days of Attila. Retreating across the Main and Rhine he stood at bay in Champagne. In vain were all the efforts of the most consummate skill in war yet displayed by himself or preceding generals. After fighting a dozen battles in as many weeks he was obliged to capitulate. His residence under surveillance has immortalized the island of Elba, but he reappeared in France in 1815 and for the "Hundred Days" struck Europe with terror. His campaign in Belgium was far from a happy effort, whether strategy or tactics be considered, and yet his plan of interposing between Wellington and Blucher, driving them apart, and keeping one employed by a detaining force while he thoroughly defeated the other, was sound in principle. The 18th of June might well have been signalised by the disastrous defeat of the allies, Wellington hurrying through Brussels to his ships, and Blucher speeding towards the Rhine. The tenacity of the British at Waterloo saved Europe from this calamity, and the arrival of the Prussians on his right flank in the very crisis of the battle put an end to the career of the modern Cæsar, who—like the Roman—had fought in Belgium, Germany, Italy, Spain, and Egypt, and had been met and foiled by the British.

CHAPTER XIV.

INFLUENCE OF CLIMATE ON MILITARY OPERATIONS.

THE general view of the effect of climate upon war is thus set forth by Lord Bacon:—

“Wars in ancient times seemed to move from East to West, for the Persians, Assyrians, Arabians, and Tartars were all Eastern people. It is true the Gauls were Western, but we read of only two incursions of theirs—one to Gallo-Graecia [Gallicia in Asia Minor] the other to Rome; but East to West have no certain points of heaven, and no more have the wars from East to West any certainty of observation, but North and South are fixed, and it hath seldom or never been seen that the far Southern people have invaded the Northern, but contrariwise, whereby it is manifest that the Northern tract of the world is in nature the more martial region—be it in respect of the stars of that hemisphere, or of the great continents that are upon the north, whereas the south part, for all that is known, is almost all sea (this guess has been corroborated by subsequent discovery), or, (which is most apparent) of the cold of the Northern parts, which is that, which without the aid of discipline, doth make the bodies hardiest and the courage warmest¹.”

¹ *Essay* LVIII, On the Vicissitudes of Things.

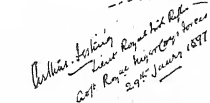
This very able analysis, considering the date of its composition, has since been accepted almost as an axiom. Yet it cannot stand the test of either ancient or modern history. In truth, the temperate zone which is intermediate between the north and the equator has produced all the greatest conquerors, from Semiramis to Alexander, from Hannibal to William of Normandy, Gustavus, and Napoleon. The majority of the Moors must also have come from the temperate zone, as certainly came all the Manchurian, Mongol, and Tatar leaders. Even the greatest patriots and liberators of history belonged to the same zone as that which gave birth to Arminius, Matthias, Henry IV., Washington, and Bolivar. It will be found that the temperate zone is the best for military as well as civil virtues, but Lord Bacon's saving clause regarding discipline applies whether to the northern and southern parts of the temperate zone, or to the world at large. A well-disciplined army, with weapons up to the highest resources of the age, and with well-organized systems of transport, will defeat an undisciplined force wherever its base, north or south. The Macedonians were north of the other Grecians, whom they routed as they pleased. The Romans were south of Helvetia and Gaul, yet they defeated the hardy and daring inhabitants of these regions. The Saracens for a period carried all before them, east and west and south and north.

Lord Bacon has made another mistake in saying that the cold of the northern parts makes the courage warmest. He probably was misled by the successes of the Visigoths, Anglo-Saxons, Scots, English, Scandinavians and Muscovites, but all these belonged to the

temperate zone. Africa was unexplored in his time, and therefore he had no idea of the desperate valour and hardy enterprise of the Zulus and Matabili, or of the strong frames and reckless heroism of the natives of the tropical Sudan, whether the Dervish rush at Omdurman or the Foulah cavalry charge against Arnold at Bida be considered, nor had he any knowledge of the operations of the Mahrattas, who went conquering and to conquer from Poona to the Indus. No native of Europe is braver than a tropical African, but then the latter has fanaticism as a substitute for discipline. When he is disciplined and well-armed he is capable of the greatest things, and only armed with the spear and shield of savagery he was able to annihilate Egyptian armies, endanger the square at Abu Klea, and sack Khartum.

Nor is it the case even that the most northern peoples of the temperate zone have "the hardiest bodies and the warmest courage." The people of Spain have been at least as brave as the people of Holland till both ruined themselves and their subject states by an ignoble grasping at immediate pecuniary gain. After the Spanish fury at Antwerp the Dutch "beggars of the sea" won a famous reputation. The men of Cornwall and Kent are no whit inferior in any respect to the dwellers north of the Highland line, and never have been so since the days of Hengist and Horsa and of Egbert. In the American War the men from Texas, Georgia, Carolina, and Virginia fought far better man for man with inferior weapons and resources, than the men from Boston, New York, Chicago, and Pittsburg. But stranger than all, the natives of southern Europe in Napoleon's army bore the cold of Russia in 1812 better than the Russians

NIGER: SOUDAN EXPEDITION



United Service Institution
of India.

themselves, and men from the basins of the Rhône and the Po displayed far more powers of endurance than men from Picardy, Belgium, and Prussia.

This interesting fact, eloquently described by Alison, is again made the basis of a considerable argument in the latest Italian treatise on Strategic Geography¹. As compared with Turks from Asia Minor, the Russians made a very poor display of staying power when exposed to hardships in the Balkan Peninsula in 1877, Austrians born under the tropic of Capricorn, and Canadians from the banks of the Saskatchewan, would together prove more than equal in physical prowess to the natives of Scandinavia and the Hungarians, whether courage, height, weight, or agility in manly exercises be considered. A bad climate will not outweigh the good of race feeling, of religion or patriotism, of delight in exercise and love of fame; nor will a good one in any way avail licentious monarchies or corrupt democracies. The races of northern India and its north-western environs, with practically the same climate and civilization, differ enormously in courage. Compare, for example, the people of Scinde and Kashmir with the Beluchis, Pathans, and Rajputs, Hunza Nagars and Dogras.

But for many reasons, such for instance as the necessity for constant exercise and climbing, hard fare, as well as hard climate, the people of mountain districts ought to defeat the people of the plain, if equally well-disciplined and well-organized. Hence the value set upon Swiss², Scotch, and Swedish mercenaries in European

¹ Carlo Porro, *Geografia Militare*, 303. Torino, 1898.

² The Swiss guards of Louis XVI., as Napoleon said, if led by a resolute

wars from 1560 to 1763. To the same cause may be traced the high esteem in which the Gurkhas are held among the numerous races that now march under the banners of St George. Dwellers along the slopes of mountains resent intrusion into their valleys far more than dwellers by great rivers or in champaign countries. Charles the Bold, Duke of Burgundy, left his host at Morat "for ages to remain, themselves their monument,"¹ and the Montenegrins, Albanians, and Kurds have never been thoroughly conquered. Hence the desperate struggle of Schamyl and his Circassians against the Russians, and hence our recent troubles with Waziris, Hasaras, and Afridis.

That certain races cannot perpetuate their species in certain countries is very well known, as for example the British in India, but apart from this fact it seems that, though barbarians may live in the tropics without becoming enervated, a settled civilized community in warm climes and easy circumstances, and for a long period free from invasion, must become utterly ruined from a

prince would have stopped the Revolution, but they were massacred in vain; the Scotch were the favoured guardians of the French sovereigns and protectors of their tombs from the days of our Henry V.

¹ With regard to the Swiss, whose present army, though small, would certainly check any neighbouring great Power, Goldsmith has explained their position with matchless facility:—

"Thus every good his native wilds impart
Impress the patriot passion in his heart.

* * * *

Dear is that shed to which his soul conforms,
And dear that hill which lifts him to the storms;
And as a child, when scaring sounds molest,
Clings close and closer to the mother's breast,
So the loud tempest and the whirlwind's roar
But fix him to his native mountains more."

military point of view, even if they do not deteriorate physically. Under tropical skies and under repressive conditions of religion and government, it will be admitted that the tendency is in a marked degree to laziness. People living by the sea ought to be smarter than inland folk, especially if they are given to commerce like the eastern Americans, the British, the people of the Low Countries, the Greeks, and the modern Germans on the Baltic and by the mouths of the Elbe and Weser. Once they commit themselves to the waves and get the nerves of "triple brass" which Horace ascribes to navigators, they soon become accustomed to decide quickly and to act promptly in circumstances of danger, and thus they acquire the very first and finest characteristic of the military spirit, *Mens æqua in arduis*. Moreover their steadiness of nerve and quickness of resource lead to a general advance in civilization.

It is true that in temperate regions intellectual development is stimulated by conditions neither too easy nor too hard. Man tries to make nature his servant, and when seasons succeed each other regularly, and by gradations seldom sudden, his skill is developed by taking precautions to evade the effects of great heat or cold. Extremes of heat and cold are causes of lethargy, but they do not depend altogether on latitude; there may be very different climates in the same country, depending on altitude, exposure to certain winds, contiguity to the Gulf Stream, forests, cultivation, drainage, radiation, and character of the soil. Purely continental regions are much colder than islands or peninsulas in the same latitude.

There can be no more delusive theory than that

which lays it down that character is a function of latitude, although no doubt the love of ease most prevails in countries where one "tickles the soil with a hoe and it laughs a harvest," and in lands where little clothing or shelter in the way of permanent dwelling is required. Negroes in the West India Islands have retrogressed accordingly since the costly and premature emancipation policy of 1833. A similar fate was with difficulty fended off from the States of the defeated Southern Confederacy after 1865 by the vigour, resolution, and unscrupulous assertion of supremacy of the whites. The merciless rigour, outside the law, whereby the Galway Lynch family suppressed piracy has held the black population in awe of their former masters.

China from the Si-kiang or West river to the Amur is in the temperate zone, therefore its present condition can in no degree be ascribed to climate, and the vigorous frames of all classes of the population and their excellent work in Hong Kong, California, on the Central Pacific Railway, and in Australia, as well as their patience in face of suffering and death, their perpetual industry, and their very great skill in many an art, elegant or colossal, prove that in many respects they have not degenerated for thousands of years. Their present decay is due to political and social causes and not to climate. The false philosophy and humanitarianism of the ruling classes, wholesale corruption, rigid adherence to old custom, and—above all—contempt for the military career, have brought China to its present pass. Its future depends entirely upon the jealousies of Western nations, and is the most intricate social and political problem which has presented itself since the days of

Charlemagne. If it be not wisely treated by our statesmen, humanity at large will suffer for centuries. Europe would in less than four generations be the prey of other continents if disarmament were adopted and military training ignored.

It must further be remembered that, when the theatre of operations is entered, nothing is of much importance except military organization. The inhabitants, however well used to the climate, will perish if unprepared ; while the invader, if provided with all requisites of clothing, food, and drinks, will thrive. Such was the relative situation of the French and Germans on the Lisaine in January, 1871.

Plains produce heroes as well as mountains ; the fortitude of the Red Indians of the Mississippi basin, and their gallantry in war before they were utterly broken by the United States, are described by Cadman as being far superior to anything conceived by the most severe of the Spartan kings. If there be a tithe of truth in his story—and there seems to be no reason for doubting him—they must have been the very bravest and most long-suffering of men. The ordeals which their young men endured before being admitted to the degree of warrior were terrible.

A generation ago students laughed at Herodotus and his pygmies, but unless there be a conspiracy in favour of these little folk among modern travellers there can be no doubt that not only was he not far from the truth, but that the forests of darkest Africa produce a mannikin race of hereditary repute for skill in arms, whose alliance is eagerly sought, and whose prowess is in inverse ratio to their size.

In recent years we have learned much about the dwellers in territories within or adjacent to the Arctic Circle. The very extremes of cold and desolation cannot eradicate valour from hardy men. They tempt the dangers of the ocean alike between Labrador and Greenland, and between Alaska and Kamschatka. The Tchuktchis of Bering Strait will risk themselves in heavy seas on the flimsy fabrics of their *bidarras*, and in searching for food, or for the pelts of the sea-otter, display qualities of seamanship and adventure that would do credit to the British followers of Drake in the 16th century, or to the Japanese of Admiral Ito in the 19th.

Historical examples might be adduced almost indefinitely to prove that neither a favourable nor an unfavourable climate affects the military career of states, and that nations must not rely for success on any feature of their national life, on any resource except that of being a race of military men. Yet though climate is not a determining feature in the art of war, it must, like all other natural phenomena affecting human life, be carefully studied by strategists. The northern Russians are not more hardy than the southern Turks, but it would have been madness for any Grand Vizier to have advanced far into Russia at a time of the year when heavy snow would close up all his lines of communication.

Perhaps in no part of Europe is the influence of climate more apparent than in Germany. The people of northern, central, and southern Germany can be easily discriminated—far more easily, indeed, than the people of Yorkshire and of Devon—not only by dialectic peculiarities, but by habits and aptitudes. The northern

Germans, dwelling by the mouths of the Ems, Weser, Elbe, Oder, and Vistula, have had a hard struggle with nature for ages in clearing and cultivating the marshy, cold, and densely-wooded territories in which their trying lot has been cast, and it seems but natural that these people should have a self-contained and resolute temperament. The climatic conditions of southern Germany, on the other hand, tend to an open air existence, to gaiety, and song. Central Germany is picturesque, and has been the home of brilliant literary genius. Jena, Weimar, Leipzig, and Gotha have long been centres of intellectual activity. Moreover the arrangements of the valleys, separated from each other by mountain walls, have favoured the development of the local spirit, and explain the partition of this country in feudal times into numerous principalities, of which some still exist.

Under the defective hygienic conditions that prevailed some fifty years ago, being ordered on service up the rivers of West Africa was almost equivalent to a sentence of death. The fever-stricken Campagna has been the grave of many a brave soldier when marching on Rome; Hannibal, for instance, suffering much in his own person. In countries with sandy surfaces the nights will probably be comparatively very cold, although in the day the highest temperatures prevail. The mean summer temperature of the deserts of Arabia, Persia, Africa, and the Punjab is 95° . The effect of forests is to make the days cooler and the nights warmer. Continental districts are much cooler than districts in the same latitude which are deeply indented by the sea. The south-west wind prevails in Great Britain, and is

moist, being oceanic and equatorial, while the north-easter with us is dry and parching, being arctic and continental. By all reasons of latitude, the mean winter temperature of London should be 17° , but actually it is 38° . The mean winter temperature of the southern States of North America is almost the same as that of Lower Egypt, where there is seldom frost, and violent alterations of temperature are rare. The States by the Gulf of Mexico, however, are liable to both these evils; in southern Texas with a violent norther the thermometer has fallen from 81° to 18° in 41 hours. The territory from Alaska to Lower California, by reason of the prevailing winds and the contours of the mountains, presents more variety of temperature than any other part of the world,—while the United States east of the Mississippi afford admirable climatic conditions for all varieties of trees, cereals, and grasses.

The people of the pampas of South America have had as yet no campaigns that need be chronicled, but those of the steppes have left indelible marks on the pages of history. What are now mere deserts were once the seats of mighty dynasties. Comparing the Asiatic steppes with the pampas of South America Humboldt says:—“In that part of the Steppes inhabited by the Kirghiz and the Kalmucks which I have traversed, that is to say, from the Don, the Caspian Sea, and the Ural, to the Obi and the Upper Irtysh near the Dsiasang, over a space of forty degrees of longitude, one can never discover, even at the most distant limit, a phenomenon frequent in the llanos, the pampas, and the prairies of America—that horizon vague and boundless as the sea, which seems to support the vault of heaven. Seldom in

Asia was the spectacle offered me of even a single side of the horizon. The Steppes are traversed by numerous chains of hills, or covered with forests of conifers.

"The dust is whirled off the ground by the wind, and swept about in revolving tornadoes. The Steppes situated in a comparatively low latitude thus alternately assume the most discordant aspects. In winter the heavy rains inundate them, and transform them into impracticable marshes, spring clothes them with a thick carpet of grasses and other herbaceous plants, so that they reveal to the eye leagues upon leagues of delightful sward, cropped by numerous flocks. In summer they undergo a third metamorphosis, and are converted into parched and sun-scathed deserts like those of Nubia and Arabia.

"These periodical transformations are especially remarkable in the Steppes of the Black Sea, the Sea of Azov, and the Caspian Sea ; where winter comes attended with abundant snows and terrific tempests. No obstacle can arrest the fury of the gale, which accumulates the driven snow in fearful avalanches, and like the demon in the old German legend, drives before it the wild horses in an access of violence. The hurricanes are neither less numerous nor less furious in the hot than in the cold season ; dust, however, takes the place of snow, when, as is sometimes the case, no tremendous deluge of rain follows the track of the mighty wind. To sum up, the spring and summer of the Steppes are compressed, so to speak, into two months ; all the rest of the year seems to be given over to desolation. Two months in the year of bloom, and sunshine, and colour, and beauty, are all that Nature grants the wandering Mongolian¹."

¹ Humboldt, *Ansichten der Natur*, vol. 1. Appendix.

In support of the historical examples adduced above to show that military valour and success have not depended on climatic conditions the opinion of General Marselli may here be quoted. He says:—

“The careful observation of historical facts proves that any nation, if moved by an imperious need or by a noble idea, and if placed under a good disciplinary system, can become a brave and warlike nation.

“Possibly we may find dispositions and capacities more suitable for military services and warfare in mountainous countries and in temperate climates than in monotonous plains and in districts of enervating heat; but history shows that the temperate zones at least contain neither regions of courage nor regions of cowardice. A nation which to-day may be held by general opinion to be unfit for war, may be to-morrow rich in military characteristics, braced up by a virtuous indignation and placed under a vigorous command; on the other hand, enervating moral influences can render even the children of the mountains in temperate zones indolent and feeble. Nature predisposes character, but she does not firmly decide it. When historical conditions permit it, all men can be brave soldiers¹.”

At 9800 feet or more above the sea-level the rarefaction of the air produces in many people, and especially in those unused to mountains, the disorder called mountain sickness. Even at lower altitudes, say 7000 feet, in the Alps there are great differences of temperature between day and night. The night temperature is generally so low in summer that soldiers unaccustomed to breathe in the mountain air cannot bivouac in the open. Above

¹ *La Guerra e la sua Storia*, vol. II., p. 155.

these altitudes, even Alpine troops cannot sleep in the open air except, perhaps, in well-sheltered spots, with plenty of fuel at their disposal. In these localities fuel has to be procured beforehand, as houses are few and small, and there is no arboreal vegetation.

Agriculture has almost as great an influence on Strategic Geography as the original natural state of the country. Well-cultivated districts are thickly populated, hence the towns and hamlets are close, and obstacles to the free movement of troops are multiplied; on the other hand forests are thinned, scrub is removed, and swamps are drained, and thus the operations of farmers facilitate those of armies.

There have been many cases in modern wars in which mere accidents of climate and weather have been disastrous to armies, but in most of these over-confidence or official negligence has done quite as much harm as natural forces. For example, Napoleon's invasion of Russia was planned with reckless lack of prevision; whether advancing or retreating, the march of each corps was conducted without reference to those who followed on the same road. It was not the snow only that ruined the Grand Army, its effectives were reduced one half before the retreat began, and the bad weather simply hastened what would have been a disaster in any case. Before a week had passed, and long before summer was over, 10,000 horses had perished for lack of nutriment.

Napoleon was rash; and in war Fortune has only crowned with success those whose daring—like his in all previous campaigns—had no relation to caprice, whose initiative was based on elaborate and profound calculations, and whose careful preparation left nothing

to chance. If his counsels to his brother in Spain in 1812-1813 be compared with his own proceedings as he marched to the Niemen and the Dnieper it will be seen that in the former year he was predestined to disaster. Yet when he recovered himself in 1813, all Europe in arms could with difficulty force him and his raw levies back to the Rhine.

That snow is a formidable obstacle to military progress can be learned from many a campaign, but on some occasions ice has been an avenue to success. It was over the ice that the troopers of Pichegru captured the Dutch fleet on the Texel in 1795. Barclay de Tolly led the Russians over the frozen Gulf of Bothnia to Sweden in 1809, and the ice-bound condition of the river St Lawrence in winter complicates the question of the defence of Montreal and Quebec against the United States.

Frost was fatal even in the Peninsula, and imprudence in the use of alcohol increased the dangers from bad weather. From these causes, in January, 1813, no fewer than 150 of King Joseph's French guards were frozen to death in the Guadarrama Pass. Wellington's movements on the Agueda during the same month were hampered by snow. Yet Napoleon in his eagerness to cut off Moore had crossed the Sierra Guadarrama with but little loss in December, 1808, when it was covered with snow.

The remarks of Quintus Curtius about the sufferings of Alexander's men in the Caucasus may be applied word for word to the retreating French in Russia after November 6th, 1812. "Dreary scenery and impassable wilds terrified the exhausted soldiers, they were

astonished by solitudes without a vestige of cultivation or of man. So deep were the snows that shrouded the ground, which was bound fast by ice and frost, that no sign was perceived of birds or any beasts remaining out. The light was rather an obscuration of the sky resembling darkness."

But it was reserved for the Russians themselves to afford the latest example of the terrors of mountain passes when frost and snow set in. At Shipka their 24th Division lost over 6000 men during the storm of the 18th to 23rd December, 1877. Gourko lost 2000 men frozen to death during this same storm. Again, in the movement from Plevna to Philippopolis, Daudeville lost 1000 more; while during the march to the valley of the Maritza bad food and the lack of change of clothing laid the seeds of typhus and typhoid, which soon broke out with terrible malignity.

A sudden thaw is frequently as adverse to the progress of armies as a snowfall. During their movement from St Dizier to Brienne in January, 1814, the French troops underwent the most dreadful fatigue in forcing their way through the deep and miry alleys of the great forest of Der. The frost had given way, and the thaw which succeeded had rendered the execrable cross-roads all but impassable. It was only by the greatest efforts that the guns and artillery waggons could be dragged through; the peasants harnessed themselves to the guns and toiled night and day through the mud till at length the forest was passed and the exhausted troops emerged into the open country. Throughout the whole campaign of 1814 in the deep and heavy soil of Champagne, with bad country roads and wretched weather,

to chance. If his counsels to his brother in Spain in 1812-1813 be compared with his own proceedings as he marched to the Niemen and the Dnieper it will be seen that in the former year he was predestined to disaster. Yet when he recovered himself in 1813, all Europe in arms could with difficulty force him and his raw levies back to the Rhine.

That snow is a formidable obstacle to military progress can be learned from many a campaign, but on some occasions ice has been an avenue to success. It was over the ice that the troopers of Pichegru captured the Dutch fleet on the Texel in 1795. Barclay de Tolly led the Russians over the frozen Gulf of Bothnia to Sweden in 1809, and the ice-bound condition of the river St Lawrence in winter complicates the question of the defence of Montreal and Quebec against the United States.

Frost was fatal even in the Peninsula, and imprudence in the use of alcohol increased the dangers from bad weather. From these causes, in January, 1813, no fewer than 150 of King Joseph's French guards were frozen to death in the Guadarrama Pass. Wellington's movements on the Agueda during the same month were hampered by snow. Yet Napoleon in his eagerness to cut off Moore had crossed the Sierra Guadarrama with but little loss in December, 1808, when it was covered with snow.

The remarks of Quintus Curtius about the sufferings of Alexander's men in the Caucasus may be applied word for word to the retreating French in Russia after November 6th, 1812. "Dreary scenery and impassable wilds terrified the exhausted soldiers, they were

astonished by solitudes without a vestige of cultivation or of man. So deep were the snows that shrouded the ground, which was bound fast by ice and frost, that no sign was perceived of birds or any beasts remaining out. The light was rather an obscuration of the sky resembling darkness."

But it was reserved for the Russians themselves to afford the latest example of the terrors of mountain passes when frost and snow set in. At Shipka their 24th Division lost over 6000 men during the storm of the 18th to 23rd December, 1877. Gourko lost 2000 men frozen to death during this same storm. Again, in the movement from Plevna to Philippopolis, Daudeville lost 1000 more; while during the march to the valley of the Maritza bad food and the lack of change of clothing laid the seeds of typhus and typhoid, which soon broke out with terrible malignity.

A sudden thaw is frequently as adverse to the progress of armies as a snowfall. During their movement from St Dizier to Brienne in January, 1814, the French troops underwent the most dreadful fatigue in forcing their way through the deep and miry alleys of the great forest of Der. The frost had given way, and the thaw which succeeded had rendered the execrable cross-roads all but impassable. It was only by the greatest efforts that the guns and artillery waggons could be dragged through; the peasants harnessed themselves to the guns and toiled night and day through the mud till at length the forest was passed and the exhausted troops emerged into the open country. Throughout the whole campaign of 1814 in the deep and heavy soil of Champagne, with bad country roads and wretched weather,

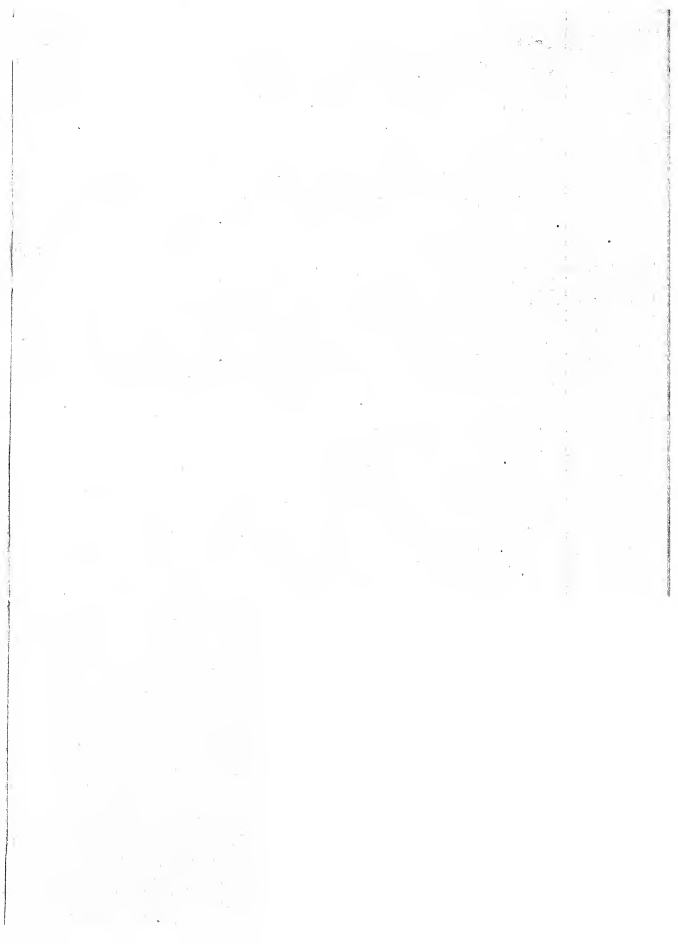
the sufferings of the soldiers on both sides, who were constantly manœuvring, were aggravated to an almost intolerable degree¹.

How fallings out and mortality may be diminished in the same climate is strikingly exemplified by a comparison of the operations of Wellington in the autumn of 1812 with those of the spring of the following year. During the march from Salamanca to Madrid in 1812, two men in ten fell to the rear, while during the march from the Douro to Burgos in 1813 not more than 8 in 500 dropped on the march. No better proof could be afforded of the excellent management of the Commander-in-Chief, when it is remembered that there were not less than 80,000 men moving forward in the same direction at the same time within touch of each other, with cavalry, artillery, tents, and baggage.

Climate remaining the same, mortality varies with hygienic arrangements. The loss in our West Indian battalions has diminished in a most gratifying manner in a few generations, but the Russians in Turkey in 1878 were in nearly as bad a state as their predecessors in 1829.

Everything went wrong with the unfortunate Walcheren Expedition in 1809. When already half spoiled by naval, military, and official incompetence it was ruined by fever. The disease first showed itself amongst the troops in South Beveland who had not the opposition of an enemy to keep their minds and bodies in healthy action, but after the fall of Flushing it broke out among the troops in Walcheren. The island, being so flat, is little better than a swamp; the ditches are filled

¹ See Alison, *History of Europe*, chap. lxxxv.



Conventional signs
indicating the positions of the troops
in the month of June 1855.

indicating the positions of the troops
in the month of June 1855.

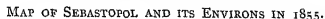
 *French*

 Turks

☒ **English**

Piedmontese

Note: The positions on the Monte Fedoukhine correspond to the 16th August 1855 - the day of the battle of Traktir.



with putrid vegetable and animal matter, the quantity of pure water is very limited. Nearly one-third of the native population is regularly attacked by fever every sickly season, in spite of their attention to cleanliness in buildings and person, and no remedy could be devised to check its ravages in the army. Even those who recovered from the disease itself had their constitutions so shattered that their physical power was materially diminished. In July, 1809, the 81st Regiment had 650 men fit for duty, in September only 40, and of 35,000 officers and men who returned to England 11,000 were in hospital.

During one of Grant's campaigns in Virginia the weather had been fair for several days, and the roads were getting in as good condition for the movements of the troops as could be expected, for in that section of the country, in summer, the dust was usually so thick that the army could not see where to move, and in winter the mud was so deep that it could not move anywhere.

"The weather now began to get cloudy, and towards evening rain began to fall. It descended in torrents all the night, and continued with but little interruption during the next day. The country was densely wooded and the ground swampy, and by the evening whole fields had become beds of quicksand, in which the troops waded in mud above their ankles, horses sank to their bellies, and waggons threatened to disappear altogether. The men began to feel that if anyone in after years should ask them if they had been through Virginia, they could say, 'Yes, in a number of places.' The roads soon became sheets of water, and it looked

as if the saving of that army would require the services, not of a Grant, but of a Noah¹."

Out of 24,000 British who perished in the Crimea, only 4,000 were wounded ; the remainder died of cholera and other diseases brought on by hardship and exposure, and no small proportion of the deaths were due to neglect.

In Cuba, in the war of 1898, about 600 United States soldiers died of wounds, but some 6000 or more of disease, and a large proportion of these deaths were due to defective medical and sanitary arrangements. This is how Mr Atkins describes the condition of the Army Medical Corps and the weather. Speaking of the night after the fighting of 3rd July, he says :—

"There were not nearly enough tents, cots, medicines, doctors, nurses, or carriers. Everything was insufficient. I have never seen anything more pitiable than the spectacle of wounded men lying all night without a tent-covering over them on the muddy ground and in the soaking dew. Night on a hospital ground was a time of horror ; there was moaning everywhere, and one night I remember two men calling all night for someone to kill them."

Of another night, over a week later, he says :—

"A thunderstorm came—such thunder as I have never heard and never thought to hear—so near, tremendous, and splitting. With it came a tropical storm of rain, falling in a wall so that you could not see through it. Soon the ground where I lay was under water. A volunteer regiment had arrived late at night,

¹ Porter's *Campaigns with Grant*.

and had no time to encamp themselves; the morning revealed them lying in a lake. The horses were all frightened with the storm, and came round the tents whinnying. And in the middle of it all, two men who had been crying out deliriously in the 'hospital' began to wander about in the field gibbering. This was a hospital in which there were cases of yellow fever."

In support of the contention that foresight, plenty of clothing, abundance of food, good discipline, and good boots will enable healthy men to pass with comparative impunity over mountains covered by snow and ice, may be adduced Manteuffel's rapid march with two corps and 168 guns over the Côte D'Or, between Dijon and Langres, January 13th to 16th, 1871. At the same period Bourbaki's army was perishing without any rapid marches in easy country, and he wrote to De Freycinet, "Men and horses are broken down with fatigue; you have no idea of the sufferings which the army has endured since the beginning of December. It is perfect martyrdom to hold its command." The brave old soldier broke down and tried to commit suicide, and his army fled into Switzerland, where a convention was signed between General Clinchamp and the Swiss General Hertzog, who with a large force had been guarding the neutral line. On 1st of February the relics of what had once been an army of 133,000 men crossed that line and laid down their arms. The Germans had captured about 15,000 men with 19 guns, before their escape to neutral territory could be effected; while 84,000 surrendered to the Swiss. Most of these unfortunate men—surely the most to be pitied of any of the victims of the war—arrived in Switzerland in a state which defies description. "Their

clothes were rent, and dropping off them in tatters; their feet and hands were frost-bitten. While the shrunk features and crouching gait told of gnawing hunger, the deep cough and hoarse voice bore witness to long nights spent on snow and frozen ground. Some had bits of wood under their bare feet to protect them from the stones; others wore wooden sabots; hundreds had merely thin cotton socks, and many none at all; others who appeared well shod would show a boot without sole or heel—the exposed part of the foot, once frozen, now presenting a wound crusted with dirt. For weeks none had washed or changed their clothes, or put off their boots. Their hands were blacker than any African's. Some had lost their toes; the limbs of others were so frozen that every movement was agony. The men stated that for three days they had neither food nor fodder served out to them, and that even prior to that period of absolute famine one loaf was often shared between eight of them¹."

In his *Defence of Plevna* Capt. W. V. Herbert describes the horrors resulting from severe climate and scarcity of food:—

"The sentry service in our own redoubt, as well as throughout camp, was of a cruelly severe character in the rigour of a Bulgarian winter. The original four hours had to be reduced to two, then to one hour. Fixed, almost buried alive, in a hole four feet deep, with the upper part of the body exposed to the bitter blasts, the lower embedded in the frozen ground, unable to move (the slightest attempt at a trot, the very act of stepping out of the hole, attracted the enemy's bullets),

¹ Colonel Hozier, *The Franco-German War*, II. p. 250.

insufficiently fed, compelled to exercise a ceaseless vigilance, struggling against the dangerous drowsiness engendered by frost, the men looked upon sentry-duty as the last refinement of torture. Our splendid great-coats were invaluable to us. When snow was on the ground the cold was less severely felt: snow with five degrees below freezing-point was better than one or two degrees above freezing-point without snow. The long, winding line of sentries, lost in the murky distance of a bleak winter day, with only the dark hoods and the bayonets visible on the white ground, presented a grotesque and striking appearance.

"By the beginning of November the rations had already been reduced, more particularly as regards meat. Bread made of maize-meal, and baked in Plevna, took the place of biscuits, the large stock of the latter commodity being retained in view of a possible sortie and a march across a famine-stricken country."

Another quotation from the same work will illustrate the awful scenes which result from defective medical arrangements:—

"There was a deficiency of drugs, quinine was almost entirely absent. Lint was wanting, garments had to be cut up for bandages, however much clothing of every description was in demand; wounds could not be bound up during the last days of the investment for want of material. The convalescents had no strengthening food. Invalids quarrelled for precedence. The German surgeon Lange said that he had not taken off his clothes for four weeks and had no more than three hours' sleep per night."

This was in Plevna in 1877: similar scenes took place

in Beaugency in France in December 1870. In the theatre alone were upwards of 200 desperately wounded men. For many hours there was no medical man in the place. As the wind was intensely cold, diminished circulation hastened the end of many a man who would have been easily cured if attendance could have been prompt. The dead and dying lay close; as the former were removed their places were forthwith filled. Even water, for which there were incessant demands, could not be procured in sufficient quantities.

During Chanzy's retreat, December 1870, the weather had been dreadful. On December 12th it was particularly bad. A torrent of rain had melted the snow and produced a thaw. The roads were everywhere exceedingly slippery, and the fields were too muddy for the passage of horses and carriages. Nevertheless the march was effected with a reasonable degree of regularity.

But, severe as were the sufferings of the retreating French, the pursuing Germans were in nearly as bad a case. On January 9th the roads were once more as hard as iron from frost, and were covered with ice, which remained for days and made the cavalry nearly useless in the actions round Le Mans. The Commander-in-chief had to dismount and walk, his staff were in the same plight unless they tried to ride in the ditch by the side of the road. The artillery and train horses were frequently falling, still the army was compelled to press on.

Cold in itself is not very trying to healthy men. Nansen and his comrades enjoyed the very best of health during their polar expedition, and it will be remembered that he and Johansen actually gained in weight during the sledge-journey. Soldiers will stand cold well if well

fed, well clad, and provided with warm shelter, as were Von Werder's men in 1871, but to the troops of Prince Frederic Charles marching on Le Mans at the same time, the slippery condition of the roads and the severity of the weather were severe hardships, and the difficulties were increased by fogs and mists in a close country.

Captain H. H. Deasy, late of the 16th Lancers, reached Yarkand on the 2nd February, 1899, after a three months' winter exploration along the valley of the Yarkand river and the adjacent country, from the western end of Rashkam at the foot of the Karakoram mountains to near Yarkand. The greater part of the route taken led through country which had never before been traversed by any European. Numerous steep and difficult passes, only crossed by execrable tracks, retarded his journey. To survey one stretch of the Yarkand river about eleven miles in length, a detour of nine marches had to be made, five passes crossed in mid-winter, one of them 17,000 feet in height, and five nights spent out in the open when the average minimum temperature was twenty-seven degrees below zero.

Some countries are turned into quagmires by even a day's steady rain; thus the routes in Belgium from Ligny to Gembloux, from Quatre Bras to Waterloo, and from Wavre to Frichermont were very difficult by reason of the rain of June 17th, 1815, and this fact had a most serious effect on the plan of Grouchy, Napoleon, and Blucher. The officials and the mass of the people at the capitals frequently do not take these impediments into account, and generals are censured for enforced inaction. The Washington authorities were indignant at McClellan's slowness in 1862, but they had not the General's

experience of Virginia mud. On two occasions during his Yorktown campaigns, "the divisions of Franklin, South, and Porter were with difficulty moved to White-house, five miles in advance; so bad was the road that the train of these divisions required thirty-six hours to pass over this short distance." Again,—“The supply trains had been forced out of the roads to allow the troops and artillery to pass to the front, and the roads were now in such a state, after thirty-six hours continuous rain, that it was almost impossible to pass empty waggons over them¹.”

The great scourge of armies in the past has been dysentery, and any but the hardest troops succumb in great numbers to the consequences of lying on damp ground. In this respect both besiegers and besieged were particularly unfortunate at Metz in the autumn of 1870. The French troops were bivouacked outside the town, between, and outside, the forts. They were insufficiently fed, their inertia had a bad moral effect which reacted on their health, but above all, the heavy rains in September and October made their state cheerless and unhealthy to a degree, and they were heavily smitten with sickness. The German investing soldiers had a more hopeful prospect; they were elated with victory and were well fed, but sturdy as the men were, remaining stationary so long on great battle-fields or charnel fields soon told upon them. In some divisions 50 per cent. were ill.

The French, too, suffered severely in the Madagascar campaign. Mr Bennet Burleigh gives a sad picture of the combined effect of climate and incompetence on their

¹ Hamley, *Operations of War*, p. 21.

vitality. The mischances and mistakes were endless. Owing to the labour of constructing roads, as well as other causes, the sickness and mortality were heart-rending. Out of some 15,000 men 6000 at least died from the effects of climate, and of wounds only 21. Not a man among the troops escaped fever. In one of the transports, the *Ville de Metz*, conveying sick back to France, there were 93 deaths on the voyage.

Compared with this record, the experiences of the British in their recent expeditions in Africa, north, south and west, have been most reassuring. Sir Charles Wilson speaks in the most favourable terms of the climate from Korti to Khartum, and Colonels Baden Powell and Alderson are enthusiastic about the delights of outdoor existence in Matabililand and Mashonaland. With regard to supply, transport, and sanitation during our recent operations from Chitral to Tirah, and from Benin and Ilorin to the Egyptian Sudan, our troops seem on the whole to have been better managed in all these striking diversities of climate than has ever been the case before with the warriors of any world power except the Romans at their best.

The utmost difficulties arising from variations in temperature, climate, and character of the country have been met and overcome by British troops; in frequent instances the same battalion has in the same year endured the utmost caprices of nature. To illustrate the various climatic experiences of our regiments, examples under the territorial system can be supplied by one English, one Irish, and one Scotch regiment. The Liverpool Regiment in this century has fought in such different localities as Martinique, Niagara, Delhi,

Peiwar Kotal, and Burma. The Royal Irish Regiment has fought in the same century at Pegu, Sebastopol, New Zealand, Afghanistan, Tel-el-Kebir, and the Sudan. The Royal Highlanders have fought in Kaffraria, in the Crimea, at Lucknow, in Ashanti, at Tel-el-Kebir, and in the Sudan.

The vicissitudes of climate, though often very trying, have not produced the least effect on the fighting vigour of our troops. Even when particular regiments were well-nigh decimated by sickness and other hardships, the men left fit for the battle were always true to their old traditions. As Sir Rennell Rodd says:—"Britain has never failed to find among her sons the men that she has need of. And they will never fail her till she turns her back on Empire, and forgets the sea."

INDEX.

- Abyssinia, campaign in, 256
 Acre, sieges of, 112, 134
 Actium, battle of, 6, 105
 Adige, river, 204
 Egyptna, 292
 Afghanistan, Lord Roberts on
 marching in, 66; ravaged by
 Timurlane, 309
 Afridis, 229
 Agriculture, its effect on war, 337
 Alang Pass, 227
 Alani, the, 297
 Alaric, 300 sq.
 Alexander, his knowledge of mili-
 tary science, 70; passes Hindu
 Kush, 227, 287; his Eastern
 campaign, 284 sq.; his route,
 288; defies rules, 292
 Algiers, bombardment of, 39; pirates
 of, 107
 Alliance, Triple, 142
 American Civil War, 1, 9, 26, 31,
 52, 59, 282, 341
 American generals, 9
 American war of 1812, 91
 Ammunition, consumption of, in the
 field, 39
 Amsterdam, 222
 Anglo-Saxons, 209
 Angora, siege of, 314
 Anson's voyage, 89
 Antwerp, 201, 202
 Aquæ Sextiæ, 293
 Arbangha Pass, 229
 Armada, the, 128
 Armies, movements of, 15, 47; their
 requirements in the field, 39, 42,
 66
 Arnold, Dr, on war, 13
 Arsenal, position of, 122
 Artillery, effects of, 199
 Asterabad, 309
 Athens as a founder of colonies, 79
 Attila, 302 sq.
 Austria, frontiers of, 165; fortresses
 of, 202
 Autumn manœuvres, English, 16
 Baber, crosses Hindu Kush, 227;
 at Kabul, 228
 Bacon, on the effect of climate on
 war, 324
 Badajoz, 186, 267
 Baghdad, 313
 Bajazet, 312, 314
 Baku, 235
 Balearic Islands, 112
 Balkh, 234, 306
 Baltic Sea, 156
 Bamian Pass, 227
 Bard, 186
 Baroghil Pass, 237, 238
 Bases, 63
 Battleships, British, 88
 Bavarians defeated at Coulmiers,
 212
 Bayonne, fall of, 193
 Bazaine at Metz, 31, 212
 Belgium, fortresses of, 184
 Belgrade, 203
 Belleisle, retreat of, 47
 Benedek, causes of his defeat, 15
 Berenice, 119
 Berenice-Assouan railway, 118
 Bert, M. Chailleul, on British colo-
 nies, 95
 Biserta, 159
 Black Sea Canal, 121

- Blenheim, 32
 Blucher, 10, 46, 219
 Bokhara, 234, 306
 Bolan Pass, 227
 Bonet-Willaumez, Admiral, 157
 Bordeaux-Cette Canai, 159
 Boundaries, Col. Holditch on, 178 sq.
 Bourbaki, fate of his army, 343
 Brenner Pass, 264
 British Columbia, 144, 170; its strategic value, 95
 British Empire, statistics of, 139
 Buccaneers, the, 99
 Bulow on strategy, 28; on Napoleon, 277
 Burgundians, the, 298
 Burke, on British prosperity, 135
 Burma, railway in, 239
 Burzil Pass, 238
 "Busses," 116
 Buyuk-Tchekmedje, 187
 Byng, Major, his march with the Sylhet Lt. Infantry, 65
 Caesar, 294 sq.; his despatch, 296; Napoleon on, 296
 Cæsarea, battle of, 313
 Camels, in transport service, 254
 Camperdown, battle of, 134
 Canada, traffic with, 143; frontiers of, 170; defence of, 193, 208, 248
 "Canadian Pacific Railway," 145, 146, 170, 247, 248
 "Canadian Steamship Line," 144
 Canadian voyageurs, 142
 Canals, 121; Baltic-Black Sea, 121; Bordeaux-Cette, 159
 Cape to Cairo, railway from, 249
 Capitals, their importance, 62; fortification of, 184
 Carnuntum, 273
 Carribean Sea, its strategic importance, 98 sq.; sea-routes in, 101
 Carthage, 439
 Carthaginians, 78
 Cavalry in rough ground, 232
 Chagru defile, 283
 Châlons-sur-Marne, 303
 Chaman, New, 236
 Channel, the, its strategic importance, 158
 Chanzy, retreat of, 346
 Charlemagne passes Lower Rhine, 266
 Chaucer, on English valour, 126
 China, Great Wall of, 177; frontiers of, 178; its people, 330
 Chitral, 230, 238
 Chotiali Pass, 227
 Cicero, on Pompey, 80
 Cimbri, 293
 Ciudad Rodrigo, 186, 267
 Clarke, Col. G. S., on forts, 182
 Clausel, his march after Vitoria, 64
 Clausewitz on war, 13
 Climate, effect of, on war, 324 sq.
 Clive, 130
 Coal in British Columbia, 144
 Coaling-stations, British, 88, 139; foreign, 102
 Colomb, Admiral, on recent naval warfare, 86
 Colonies, British foundation of, 136
 Commissariat of armies, 17, 40, 217, 293; during the Crusades, 72, 73
 Constantinople, military history of, 114; lines of, 187
 Coote, Eyre, 132
 Coptos, 118, 275
 Corfu, 113
 Crauford, Gen., his march, 64
 Crete taken by the Turks, 110
 Crimean War, ammunition and stores required in, 40; sickness in, 342
 Crusaders, 71, 74, 81, 115
 Cuba, 100, 151, 195, 342
 Cyprus, Richard I. in, 116; its importance, 158
 D'Ache, Commodore, 131
 Dakar, 92
 Damascus burnt, 313
 Dandolo, Doge of Venice, 72, 81
 Dargai, 282
 Dariel, defile of, 310
 Davoust, checks the Archduke Charles, 37
 Deasy, Capt., on Yarkand, 347
 Defensive versus Offensive policy, 45
 Defiles, 261 sq.
 De Grasse, 133
 Delagoa Bay, 93 sq.
 Delhi, captured by Timurlane, 311
 Delos, 120; confederacy of, 79
 Demetrius Poliorcetes at Rhodes, 107

- Dera Ghazi Khan, 227
 Dera Ismail Khan, 227, 234
 De Rohan seizes the Valtelline, 167
 De Suffren, 133
 "Detaining force," definition of a, 34
 Diebitsch crosses Balkans, 282
 Dora Pass, 227, 238
 Dowlah, Surajah, repulsed, 131
 Dragut takes Gozo, 108
 Drake, his circumnavigation, 89;
 and the Armada, 128
 Drissa, 193
 Dromond, capture of the, 116
 Dupleix, 130
 Du (Quesne, Fort, 131
 Düsseldorf, 266
 Dutch, the, and sea power, 84, 129;
 defences, 222; dykes, 223
 Dysentery in armies, 348

 Egypt, the granary of Italy, 105;
 trade routes in, 117; Caesar in,
 296
 Egyptians, a non-maritime people,
 77
 Ehrenbreitstein, 200
 Elba fortified, 159
 Elephants in transport, 256, 270
 England, naval strength of, 87;
 as a sea power, 129 sq.; position
 among nations, 136
 Esquimault, 145, 249
 Essling, Napoleon checked at, 200
 Euphrates Valley railway, 118
 "Exterior lines," 36

 Fedoroff, on Russian policy in
 Abyssinia, 258
 Feldkirch, 276
 Feuquières on the selection of
 generals, 33; on Turenne's winter-
 quarters, 48
 Finisterre, 134
 Fleet, of Edward III., 82; func-
 tions of a, 86; potentialities of,
 in Mediterranean, 124
 Fortification, 182 sq.; of capitals,
 184, 199; field, 218, 220
Fortifications passagères, 218, 220
 Fortresses, French, 183; sites of,
 200; American, 206; German,
 202; Russian, 202; Dutch, 222
 France, naval strength of, 87;
 checked in India, 132; her German
 frontier, 174; fortification of, 183,
 210, 212
 Franco-German War, 2, 42, 46, 58,
 66; its lesson, 55
 Franks, the, 298
 French, military science of, 11;
 operations of, in Alps in 1799,
 275
 "Front of operations," 60
 Frontiers, 162 sq.; varieties of, 170
 Frost, effect of, on troops, 338
 Furka Pass, 265

 Gaillard, Château, 208
 Gama reaches India, 83; his voy-
 age, 89
 Gambetta's levies, 8, 28, 210
 Gaugamela, 287
 Genseric, 105, 298
 Geography, uses of, to generals, 9
 Gepides, 297, 298
 Gergovia (Gergoie), Caesar defeated
 at, 295
 Germanicus passes lower Rhine,
 266
 German military science, 11; fort-
 resses, 202
 German Ocean, 157
 Germany, climate of, 333
 Gibraltar, 158
 Gilgit, 237
 Gobi Desert, 307
 Gokteik Gorge, railway over, 240
 sq.
 Goldsmith on the Swiss, 328
 Goltz on war, 13
 Gomul Pass, 234
 Goths, 297
 Gourko passes the Balkans, 262,
 339
 Gowan, Col., on Abyssinia, 259
 Granicus, 286
 Grant in Virginia, 341
 Gravelotte, 24
 "Great Indian Peninsular Rail-
 way," 245
 Greece, as a sea power, 79; roads
 into, 269
 Guadarrama, 338
Guerres de Course, 86
 Gupis, 237
 Gwalari Pass, 227

 Hamilcar Barca defeated, 78
 Hanley, on fortresses, 225

- Hannibal, 78, 105, 289 sq.
 Hasdrubal, 290
 Havana, 100, 132
 Hawaii, 150
 Heads, towers of, 309 *
 Helvetii defeated by Cæsar, 294
 Herbert, Capt., on defence of Plevna, 344
 Hindu Kush, passes of, 226
 Hippalus first uses the monsoons, 119
 Hogue, La, 85
 Holdich, Col., on frontiers, 178 ; on Indian ditto, 227
 Holkar, his defeat by Lake, 64
 Holland and command of the sea, 84 ; her defences, 222 ; invaded, 225
 Höllenthal, 267
 Hornby, Admiral, 158
 Hughes, Admiral, 133
Huissiers of the Venetians, 73
 Humboldt on the Steppe climate, 334
 Hu-nan, 245
 Hungary, invasions of, 263
 Huns, the, 297
 Hunyady, John, 204
 Hunza, 237, 238
 Hyder Ali, 133

 Ice in military operations, 225, 338
 Ildico, 304
 Illyria conquered by Attila, 302
 India, visited by Da Gama, 83 ; Roman shipments to, 119 ; mails to, 146 ; frontiers of, 162, 221 ; passes of, 226, 238 ; railways of, 245 ; invasion of, by Timurlane, 311
 Indies, West, 99, 132, 134
 Indo-Egyptian trade-route, 118
 Innsbruck, 264, 270
 "Interior lines," 36
 Inundation, the defence of Holland, 222
 Invasion, routes of, 226 sq., 284 sq.
 Ireland, its strategic importance, 141
 Irrawaddy, river, 239
 Isfahan, 309
 Italy, frontiers of, 163, 173 ; invasion of, 263, 293, 303 ; passes of, 264 sq.
 Jackson, General, 9 ; in Shenandoah Valley, 26, 31 ; resigns, 52
 Jamaica, capture of, 100, 130
 Japan *versus* China, 98
 Java, seizure of, 135
 Jaxartes, 306, 309 ; Alexander crosses, 287
 Jena, battle of, 185
 Jenghiz Khan, 306 sq. ; crosses Gwalari, 227
 Jhelum, Alexander on the, 288
 Jomini on Waterloo, 280
 Juba defeated by Cæsar, 296

 Kabul, river, position on, 222 ; Alexander passes, 227
 Kandahar, 236
 Kané, 119
 Karakoram, 306
 Kelly's march, 232
 Khartum railway, 252
 Khawak Pass, 227
 Khoja Amram tunnel, 235
 Khorasan, 306
 Khurd-Kabul Pass, 228
 Khyber, 221, 228, 233
 Kiel, arsenal and canal, 157
 Kilik Pass, 237, 238
 Klondyke, 248
 Knights of St John occupy Rhodes, 107 ; Malta, 107
 Koloktsa, Cape, 93
 Koshat, 236
 Krems, Napoleon at, 200
 Kuram valley, 233

 Labourdonnais, 130
 La Hogue, 85, 129
 Lake, Lord, his Ferruckabad march, 64
 Lecourbe in Switzerland, 167
 Lee, at Petersburg, 206
 Leipsic, battle of, 280, 323
 Le Mans, actions round, 346, 347
 Lepanto, battle of, 6, 106
 Lille taken, 185
 "Line of operations," 22, 58
 "Lines of communications," 58
 Lines, of Torres Vedras, 189 ; of Constantinople, 187 ; of Petiti-codiac, 194 ; Ne Plus Ultra, 169 ; of Drissa, 193 ; Soult's, 193
 Lissa, 135
 Lombards, the, 298

- Louis VII., his march across the Danube, 72
 Lourenço Marquez, 93
 Lowara Pass, 238
 Low's, Sir R., march, 232
 Luziensteig, 174, 203
 Lyons, 200
 Lysander defeats Conon, 80
- MacDonald, in the Alps, 276 sq.
 Machiavelli on war, 12
 Mack taken prisoner, 34, 216
 MacMahon, his march and capture, 12, 51
 Madagascar, French in, 348
 Maddalena fortified, 159
 Magdala, battle of, 256
 Magellan's voyage, 89
 Magyars, 299
 Mahan, Capt., on importance of Caribbean Sea, 101; on colonial expansion, 149; on Cuba, 151
 Mahmoud of Ghazni, 227
 Mahomed Ghuri, 227
 Main, river, 174
 Malakand Pass, 232
 Malaria in Burma, 244; in Africa, 333
 Malta, its history, 107 sq.
 Mandalay, railway to, 240
 Manila, 132
 Manteuffel crosses Côte d'Or, 343
 Mantua, 204, 318
 Marches, rapid, 63
 Marius destroys Cimbri, 293
 Marlborough at Blenheim, 32; Addison on, 33
 "Marriage of the Adriatic," 81
 Marselli, Gen., on climate, 336
 Massena operates in Switzerland, 167, 203, 276
 Maurice, Gen., on Triple Alliance, 142
 Mauritius, capture of, 93, 135
 Mayence, 200
 McClellan in Virginia, 348
 Mediterranean, its strategic importance, 104 sq., 158
 Memnon of Rhodes, 70
 Merv, 235; railway, 234
 Metaurus, battle of, 290
 Metz, 200; operations round, 31, 210
 Mexican Gulf, its strategic importance, 98
- Mexico, boundaries of, 170
 Michaelovsk, 235
 Military history, writers on, 9
 Mincio, river, 204
 Minden, 131
 Minorca, 112, 133
 Moghuls cross Hindu Kush, 227
 Molitor at Näfels, 276
 Moltke a traveller, 10; at Zeugma, 285
 Monroe doctrine, 102
 Montenegro, 166
 Montreal, 62, 131, 247, 249; line to, 144
 Moors in Spain, 154, 155
 Moreau, his movements in 1800, 171, 216
 Morgan, his march to Panama, 99
 Moscow, retreat from, 322, 337, 338
 Mountain-sickness, 336
 Mountain warfare, difficulties of, 168
 Mozambique Channel, 93
 Myos Hormos founded, 118
- Näfels, 276
 Najara, 127
 Nansen in the Arctic expedition, 346
 Napoleon III. before Magenta, 200
 Napoleon, 317 sq.; a student, 10, 70; his strategy, 24, 37, 168; his advance to Vienna, 29; imitates Marlborough, 34; his march to the Rhine in 1805, 66; takes Malta, 109; on the British Navy, 134; in German War of Liberation, 165; enters Berlin, 185; evades Bard, 186; on Danube, 200; instructions concerning fortresses, 219; in the Alps, 276; his estimate of Cæsar, 296; his losses in Champagne, 303; his Egyptian campaign, 319; his naval judgement, 320; Seeley on, 320; his 1806 campaign, 321; his Austrian campaign, 322; his retreat from Moscow, 322, 337
 Narbonne, 292
 Navy, British, 126 sq.
 Nearchus, 80, 288
 Nelson in West Indies, 89
 "Ne Plus Ultra" lines, 169
 Nero, his campaign against Hasdrubal, 290
 New Chaman, 236

- Nicias, his siege of Syracuse, 111
 Nile, battle of the, 134
 Niox, M., on colonial expansion,
 137; on England, 138
 Nuksan Pass, 227
- Obok, 92, 258
 Oder, *trouée* of the, 263
 Offensive versus Defensive policy,
 45
 Omdurman, 39
 Operations, line of, 22
 Orange, 293
 Orenburg railways, 235
 Orkhanie road, 263
 Orléans, 303
 Osman Pasha at Plevna, 205
 Osmanlis, the, 299
 Ostrogoths, the, 297
 Otrar, 316
 Otto the Great, 299
 Oxus, an old trade-route, 118; rail-
 way on, 234
- Palæologus, his defence of Con-
 stantinople, 115
 Pamirs, 237
 Panama Canal, 100
 Panix Pass, 276
Panjee, 219
 Pantellaria, 112
 Paris, its condition as a capital,
 62; Peace of, 157; falls, 212;
 siege of, 216
 Park, Brigadier, his march in 1858,
 65
 Paspebiac, 144
Passagia of the Crusades, 115
 Passau, Treaty of, 270
 Passes, 226 sq.
 Peiwar Kotal, 233, 234
 Peking, open to Russia, 160;
 sacked, 306
 Pemberton defends Vicksburg, 206
 Peninsular campaign, 29; sickness
 in, 15
 "Periplus of the Erythræan Sea,"
 120
 Peshawar, 221
 Petersburg, 206, 207
 Petitcodiac lines, 194
 Pharsalia, 105
 Phœnicians, a naval people, 76
 Pichegru invades Holland, 225
 Pisans capture Balearic Islands, 81
- Pishin, 235
 Pitt on war, 52
 Plevna, 29, 39, 205, 344
 Pocock, Admiral, 131
Points d'appui, British, 146 (*v.*
 under Coaling-stations)
 Poland, important places of arms in,
 172, 202
 Pollilore, 133
 Polo, Marco, 82
 Pompey, 80, 105
 Pope Alexander VI., bull of, 83
 Port Arthur, railway to, 152; its
 strength, 159
 Portugal, her command of the sea,
 83; defiles of, 267
 Pourrières, 293
 Preobraghensky regiment, 263
 Privateering, 86, 93, 132
 Provence, won by Romans, 292
 Prussia, frontiers of, 172; places
 of arms in, 172
 Ptolemy Euergetes in Abyssinia,
 256
 Punic wars, 290
 Pygmies, 331
 Pyrenees, 162; passes in, 267
- Quadrilateral, Austrian, 204; Po-
 lish, 202; Turkish, 205
 Quarters, necessary for armies, 18;
 winter-, 47
 Quebec, 208, 249
 Quesne, Fort du, 131
 Quetta, 235
 Quiberon, 85
- Railways, 19; Russian, 234, 236;
 Indian, 235, 245; Burmese, 239;
 Canadian, 145, 246; African,
 249 sq.; Siberian, 255
 Rashkam, 347
 "Regions, the," 215
 "Rennstiege," 267
 Rhine, 203; fortresses of the, 200
 Rhodes, its history, 106
 Rhône-Rhine *couloir*, 174, 203
 Richard Cœur de Lion's Crusade,
 115
 Richmond, 206
 Rivers, command of, 103; Swiss,
 203
 Roads, 261 sq.; in India, 246;
 Roman, 272 sq.

- Roberts, Lord, on marching in Afghanistan, 66
- Rodd, Sir Rennell, on British soldiers, 350
- Romans attempt sea power, 78; capture Corinth, 79; their frontiers, 164; military posts, 271; roads, 272; win Provence, 292
- Roncesvalles Pass, 267
- Rorke's Drift, 218
- Rothenthurm Pass, 263
- Routes, sea-, 145
- Rubicon, 295
- Russia, naval strength of, 87, 160; expansion of, 151; railways of, 152, 160, 234; frontiers of, 172; fortresses of, 202; advance of, on India, 235, 238; her policy in Abyssinia, 258
- Russians before Constantinople, 187
- Russo-Turkish war, 205, 262, 282, 339; sickness in, 16
- Sadowa, battle of, 280
- Sahalo, 258
- Salamanca, 24
- Salamis, battle of, 79
- Salonika, 211
- Samarkand, 234, 306, 307, 315
- Sampagha Pass, 229
- Saracens, 299
- Sea, command of, 75 sq., 126 sq.
- Sédan, 52, 215
- Senegal reached by Carthaginians, 78
- Setzwar, 309
- Sheridan engages Lee, 208
- Sherman, 9
- Shipka Pass, 262, 282, 339
- Shundur Pass, 232
- Shutargardan Pass, 228, 234
- "Sicilian Vespers," 112
- Sickness in armies, 15, 16, 39, 196, 263, 339, 341
- Silistria, 205
- Simmitta, 20
- Simplon Pass, 264, 265
- Sivas, 313
- Skobelev on advance upon India, 234, 311
- Smyrna taken, 314
- Soissons, 219
- Soult, abandons Andalusia, 37; his lines, 193
- Spain and sea command, 83, 154
- Spanish-American War, 6, 8; mismanagement in, 44
- Spenser on discovery in New World, 128
- Splugen Pass, 264
- St Bernard Pass, Great, 277
- Steamship passages, 145
- Stelvio Pass, 264
- Steppes, climate of the, 334
- St Gothard Pass, 264; railway, 264
- St Helena acquired, 130
- Stilicho, 301
- St Maurice, defile of, 174, 265
- St Vincent, battle of, 134
- Strasburg, 200, 210; siege of, 39
- "Strategic front," 59
- "Strategic points," 60; in Mediterranean, 120
- Strategy, definition of, 14, 28; object of, 30; occasionally supplants battles, 37; modified by means of communication, 45
- Suevi, the, 298
- Sukkur, 234
- Suleiman Range, 227
- Sungas*, 218
- Susa, Alexander at, 288
- Suwarrow, 167, 275, 277
- Swatis, 232
- Swiss, the, as soldiers, 328
- Switzerland, warfare in, 166; its strategic position, 172
- Syracuse, its history, 111 sq.
- Sziget, 219
- Tactics, definition of, 14, 28
- Tajura, 258
- Ta-lien-wan, 161
- Tal Pass, 227
- Tashkend, 234, 309
- Tasmania founded, 134
- Taurus range, 286
- Telegraph, Gilgit, 238
- Teutones, the, 293
- "Theatre of operation," 57
- "Theatre of war," 58
- Thermopylæ, 269
- Timurlane, 307 sq.; crosses Hindu Kush, 227
- Tirah expedition, 228
- Toktamisch, 310
- Tömöser Pass, 263
- Torres Vedras, lines of, 189 sq.
- Toulon, 159; besieged by the British, 113, 123

- Trafalgar, 134
 Tragdal Pass, 238
 Trans-Caspian Railway, 234, 236
 Transport, of armies, 17, 116, 228,
 253, 256; by rail, 19; by water,
 20; by road, 20; Lord Roberts
 on, 44; comparative cost of, 90;
 in India, 235; in Burma, 241
 Trans-Siberian railway, 255
 Treaty of Passau, 270
 Triple Alliance, 142
Trochas of Cuba, 197
 Trochu, Gen., in Paris, 217
 Turenne, his winter-quarters in
 Westphalia, 48
 Turkestan, Russia in, 239
 Turkey, frontiers of, 163
 Turko-Greek War, 3
 Turks, defeated by Don John of
 Austria, 106; capture Rhodes,
 106; besiege Malta, 108; take
 Crete, 110; neglect of their navy,
 158; invade Greece, 269
 Tyre, 77

 Uganda railway, 252
 Ugurs, 306
Uitleggers, 224
 Ulm, 216; Kray retreats to, 171
 Urds, 267
 Usipetes defeated by Cæsar, 294
 Utrecht, Peace of, 130
 Uxellodunum, 295

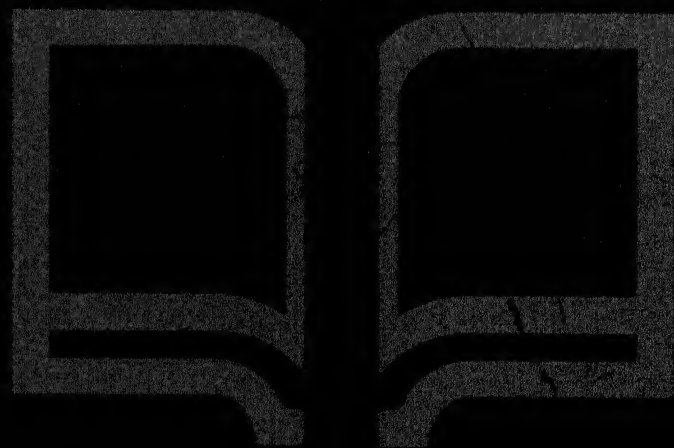
 Vancouver, 145
 Vandamme, his capture at Kulm,
 279
 Van Diemen's Land, 134
 Valetta, 108
 Valtelline conquered by de Rohan,
 167
 Vandals, the, 298
 Varna, 205
 Vasco da Gama reaches India, 83,
 89
 Vanbois besieged in Malta, 110
 Vegetius, 71
 Veneti defeated, 294
 Venice as a sea power, 81, 82,
 106; taken by Bonaparte, 318
 Vercellæ, 293
 Veringetorix, 295
 Vereczke, 263
 Via Emilia, 272; V. Flaminia,
 273; V. Aurelia, 274; V. Appia,
 274; V. Egnatia, 274
 Viaduct over Gokteik Gorge, 244
 Vial on Vegetius, 71
 Vicksburg, siege and fall of, 206
 Victories, decisive, 29, 32, 85, 129,
 134, 185
 Vienna, road to, 204
 "Virgin" fortresses, 184
 Virginian campaign, 26, 171, 185,
 341
 Visigoths, the, 81, 297
 Vitoria, 127, 280
 Vladivostock, 160, 161
 Von Werder on the Lisaine, 16
 Voyages, average times of route-,
 89
 Voyageurs, Canadian, on the Nile,
 142

 Wagstaff, Mr, on Burmese rail-
 ways, 239 sq.
 Walcheren expedition, 340
 Walls as defences, 176; Great
 Wall of China, 177
 Walvisch Bay, 92
 Wandewash, 132
 War, requirements in, 55
 Washington on British navy, 133
 Water-carriage, 20
 "Waterline, New Dutch," 223
 Waterloo, 323, 347
 Watts-Jones, Lieut., travels in China,
 245
 Weather, effect of, on armies, 20,
 68, 262, 276, 324 sq.
 Weissenburg, 185
 Wellington, a student, 9; his care
 for his sick, 15; combines with
 Graham north of Douro, 37;
 studies commissariat, 43; takes
 Badajoz, 135, 186; beats back
 Soult, 166; retires after Busaco,
 189; his march to Burgos, 340
 Werder, von, on the Lisaine, 16;
 before Strasburg, 210; on Schir-
 meck Pass, 266
 West Indies, their naval history,
 99, 132, 134
 Weyler in Cuba, 197
 Windward Islands, 132
 Wingate, Capt., in Yunnan, 245
 Winter-quarters, 47
 Winzingerode, 219
 Wolfe, 131

- Wolseley, Lord, on Crimean War,
 40; his advance to Khartum, 142
 Xenophon, his rate of march, 64
 Xerxes, his retreat after Salamis, 79
 Vaik, R., 310
 Yang-tsze river, 244
 Yarkand, river, exploration on, 347
 Yassin, 237, 238
 Vinchow, 244
 Yorktown campaign, 348
 Younghusband, Capt., on Great
 Wall of China, 177
 Yssel, 223
 Yung-chang-fu railway route, 244
 Yunnan, railway to, 240
 Zadora, 169
 Zaka Khels, 230
 Zama, battle of, 78
 Zamburak Kotal, passage of, 68
 Zaragoza, 267
 Zaribas, 218
 Zeila, 257
 Zela, 296
 Zenghis Khan, 306 sq.
 Zeugma, 274, 286
 Ziani, destroys fleet of Barbarossa,
 81
 "Zone of operation," 57
 Zringi, 219
 Zurich, battle of, 167
 Zuyder Zee, 224

Call No. 355.47 MAG
Accession No. 13635 ~~1270~~
Cambridge Geography Series
Title Outline of military
geography 1899.
Author Maquire, T. M.

FOR CONSULTATION
ONLY



A5





A5



THE BATTLE OF SPICHEREN.

BY THE SAME AUTHOR.

THE
CAMPAIGN OF FREDERICKSBURG.

November—December, 1862.

A TACTICAL STUDY FOR OFFICERS.

"A book which is simply admirable of its kind. Here and there in the course of the narrative, the Line Officer gives us comments not only of great value to the student, but showing conclusively that he is in the hands of a competent and trustworthy teacher."—*Journal of Royal United Service Institution.*

"The author of this practical little volume aptly remarks that, in face of the high training of foreign armies, it is not enough for Englishmen to rely on national characteristics alone. With the object, therefore, of affording to our officers a sound study in tactics, he has selected for analysis that important episode in the American War, the Campaign of Fredericksburg, having in view the fact that the combatants were, in great part, unprofessional soldiers, and that consequently, the lesson might be valuable to English Volunteers. . . . Every movement in the campaign, and every assault in the battle, is carefully explained and criticised by the author of this little book, which must therefore be very useful."—*Army and Navy Gazette.*

"This is unmistakably a conscientious work, and useful."—*Saturday Review.*

"We may congratulate the author on his attempt to give a practical turn to the studies of Volunteer Officers, by presenting to them in a compact form, and, generally speaking, with due regard for accuracy, an analysis of a dramatic campaign."—*Spectator.*

CROWN 8vo, WITH COLOURED MAPS.

FIVE SHILLINGS.

Post Free to any part of the World, from the Publishers—GALE & POLDEN, Ltd.,
LONDON AND ALDERSHOT.

GALE & POLDEN'S MILITARY SERIES.

THE
BATTLE OF SPICHEREN,

*August 6th, 1870, and the events that
preceded it.*

A STUDY IN PRACTICAL TACTICS AND
WAR TRAINING.

BY

LIEUT.-COL. G. F. R. HENDERSON

Professor of Military History, Staff College.

AUTHOR OF

"THE CAMPAIGN OF FREDERICKSBURG, NOV.—DEC., 1862."
A TACTICAL STUDY.

WITH NUMEROUS COLOURED MAPS.

LONDON : GALE & POLDEN, LTD.,
2, AMEN CORNER, PATERNOSTER ROW, E.C.,

AND

WELLINGTON WORKS, ALDERSHOT.

SIX SHILLINGS.

POST FREE TO ANY PART OF THE WORLD.

erberg

Forbach Valley

Drathzug Pond below wood.

Spicheren Wood

Golden Bremm

German Toll Ho.

Folster Berg

B

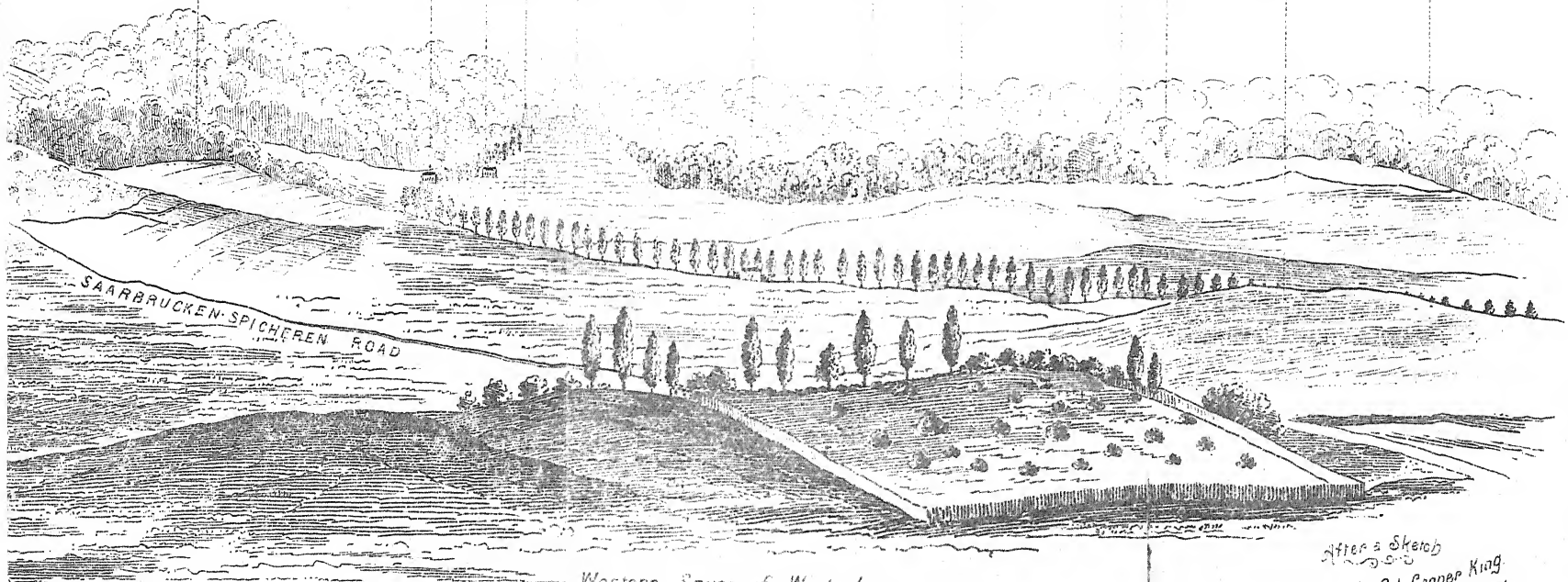
Saarbrücken Forest.

Baraque
Manton

Shring Foundry.

Stiring Copse

Galgenberg.



Western Spurs of Winterberg

After a Sketch
by Col. Cooper King
R.M.A.

ALDERSHOT :
GALE & POLDEN, LTD., PRINTERS, WELLINGTON WORKS.



[The right of translation and reproduction are reserved.]

PREFACE.

MILITARY HISTORY teaches us that, generally speaking, success and disaster depend on the application or neglect of certain tactical principles. These principles are few in number and simple in theory; they are the basis of drill, the guiding spirit of all manœuvres; every soldier is more or less familiar with them, but, if there is one fact more conspicuous than another in the records of war, it is that, in practice, they are as readily forgotten as they are difficult to apply. The truth is that the tabulated maxims and official regulations which set forth the rules of war go no deeper than the memory; and in the excitement of battle the memory is useless; habit and instinct are alone to be relied upon.

The habit of acting in accordance with sound principles is developed only by experience. Experience assists us to recognise instinctively what is sound and what is dangerous, what need not be feared and what must not be overlooked. Personal experience of war is, however, given but to few, may be purchased at too great a price, and in point of view is often circumscribed.

"Wars are of rare occurrence," says Gizycki, "the exception and not the rule, so that the officers' training takes place not in war but in peace—and personal experience of war is always one-sided, and that in a variety of ways. In the first place, every man's experience is confined to the narrow circle of his own activity, which, as a rule, is in a different sphere in every new war in which he takes part.

"Such experience, it is true, is more comprehensive in preparation as a man rises in rank; but the superior officer misses much which only the subaltern officer experiences. The subaltern officer is mainly occupied with the troubles that have to be overcome with the rank and file; the superior officer with the friction that arises in the distribution of orders and the conduct of the larger units. But even within the same limited sphere, individual experiences of war differ entirely one from another. One man has only been present at successful actions, another only at a defeat, a third has never been under fire at all; one was in the advanced guard which was struggling with all its forces to win the day, another only arrived on the battle field when the enemy's strength was almost broken."

It is nevertheless possible, by appropriating the experience of others, to find an efficient substitute for practical acquaintance with almost every phase of active service. But if we would make this alien experience our own, it must be dealt with systematically. It is not sufficient to read or to listen to the account of a campaign or battle. A cursory glance at a variety of incidents leaves little behind. To gain from a relation of events the same abiding impressions as were stamped on the minds of those who played a part in them—and it is such impressions that create instinct—it is necessary to examine the situations developed during the operations so closely as to have a clear picture of the whole scene in our mind's eye; to assume, in imagination, the responsibilities of the leaders who were called upon to meet those situations; to come to a definite decision and to test the soundness of that decision by the actual event. The intellect is thus brought into collision with reality, and the contact is little less impressive than practical experience.

If, having formed our plans to meet an emergency which actually happened, we find, on turning to the relation of the facts, that the neglect of some precaution on our part, or the occurrence of some event which we ought to have foreseen, would have ruined our scheme, the rebuff to our judgment will not be readily forgotten. Our first instinct, when we next confront such a situation, theoretically or practically, will be, to provide against the recurrence of such a misadventure. The first advantage, then, of such a system of self-instruction, is the training of the judgment to act instinctively on sound principles. The student is confronted with a succession of problems, the solution of which—such is the nature of war—is complicated by the intervention of many untoward incidents; fresh factors are introduced at every step; and thus, habit of quick resolution, together with a comprehensive *coup d'œil*, and the power of bringing under consideration everything that may affect the working out of any plan we may have conceived, of observing the effect such and such a manoeuvre will produce and the precautions that must be adopted to ensure its execution, will gradually be developed. The tactical examinations for promotion, at least for the higher ranks, no longer mere tests of memory, have, of late years, taken the more practical shape of trials of the capacity for speedy and sound decision, the quality most essential to a soldier; and the surest means of acquiring and improving this capacity is the system here advocated.

2nd:—An acquaintance with the devices which others have adopted in order to avoid violating, or to apply tactical principles, will, if it does not supply an exact model, at least suggest the way in which such devices may be modified to meet circumstances with which we may be confronted.

3rd:—A knowledge of what has already taken place helps us to anticipate what will occur in the time to come. Realising, although only through the eyes of others, the phenomena of the battle-field, they will not appear altogether novel and bewildering

when we are called up to face them ; we may meditate on the best means of checking or avoiding their disturbing influence, so that they will not find us unprepared. "It is in the novelty lies the danger," writes Colonel Hale, "for the danger of novelty is surprise, and surprise is the deadliest of foes. Reduce to a minimum the chances of surprise; let a man be always prepared, and it loses half its danger."

4th:—The study of actual operations teaches us the strength of the other arms, the manner in which they can best render support to our own, the circumstances in which they most require support; in a word, it helps us to understand how artillery, cavalry, and infantry, may be best combined to achieve a definite purpose, and in this respect the personal experience of any regimental officer is of little value.

5th:—As the principal duty of the officers of to-day, at least of the regular forces, is the instruction of their men, the deeper the knowledge of the instructor with what his men have to be trained for, and the clearer his insight into the difficulties he and they will have to encounter, the sounder will be his work.

Lastly: It is only from the experience of others—and this is the true definition of military history—that we can obtain knowledge of the more startling and decisive aspects of the breech-loader battle. The effect of fire, the intense strain on the nerves produced by a protracted engagement, the dispersion of units, the tendency and the temptations to straggling and disorder, the moral effect of flank attacks and turning movements, the difficulty of transmitting orders, and, more than all, the importance and influence of ground, with these, not all the experience and exercises of peace can afford more than the most superficial acquaintance. If we would realize them, we must have recourse to history.

If it be conceded that the study of actual operations is essential, and we are anxious to discover the principles which are applicable to the more recent developments of war, it is evident that we must turn to those campaigns which have been fought under conditions of armament as nearly as possible analogous to the present.

Although, owing to late improvements and inventions, the effects of musketry and artillery will be certainly intensified in the battles of the future, the rapid and long-ranging fire of infantry and of rifled cannon will be then, as in 1870, the chief factor of the fight. Nor will the introduction of smokeless powder, of an effective shrapnel, and of a magazine rifle with a flatter trajectory, have so altered—except in so far that they will have increased—the difficulties of leading and the conduct of troops as to lessen the value of the great engagements of the Franco-Prussian War as most reliable guides to the situations and exigencies of the future.

Moreover, the history of the war of 1870-71 is accessible in such detail, not only in the account compiled by the Prussian General Staff, but in German and French regimental histories, in the narratives of individuals, of soldiers who witnessed or who actually

took part in the events they describe, or of correspondents who were present with the armies, that it is possible to follow the movements of brigades, battalions, companies, and even sections, through every incident of an engagement.

The mass of literature that relates to the battle of Spicheren has been carefully examined; the movements of even single companies and sections have been traced, and in the following pages, therefore, the student has presented to him numerous situations, with the surrounding circumstances in such detail, that, even if he aspire to no more than the leading of a single company, he is in possession of the knowledge requisite not only for the conception of a definite plan of action, but also for testing the wisdom of his resolution.

The volumes issued under the superintendence of the Prussian General Staff form the basis of the whole narrative. So frequent are the extracts that they are not always marked as quotations; but their statements have been amplified, and in some cases corrected, by reference to the Regimental Histories, and to the observations of non-combatants.

A consideration of the battle will also prove of use to those who are interested in the land defence of England, for the ground over which it was fought is in many respects similar to the range of heights which intervene between London and the Channel. There are the same steep hill-sides, covered, as is often the case in Kent and Surrey, with woods, and with the same open plateaux and deep gullies behind the crest. Volunteer officers, whose brigades and regiments have been detailed in case of invasion to occupy portions of this line, will do well to study the manner in which the Spicheren position was defended and attacked.

In the censure or praise bestowed on the commanders, an endeavour has been made to follow Napier's example, and to justify the verdict by showing how the received maxims and established principles of war, were violated or adhered to. Military critics have often been reproached with being over liberal with their censure, but this charge applies only to those who write history merely. A work which professes to teach cannot avoid showing up errors, however excusable.

It is scarcely necessary to add that if it is to be beneficial, the study of military operations must be thorough. "We must seek to place ourselves entirely in the position of the actors; we must work upon the bases of the materials and information which the leader in the case before us had at his disposal; we must try and work for ourselves, not superficially, but entering into the minutest detail, with the map and the compass in our hand, taking into careful account the conditions of time and space."

To assist the reader in following this suggestion, a series of problems for his solution, indicated by numerals in the text, will be found in Appendix III. These should be dealt with when arrived at without further reference to the letter-press.

CONTENTS.

INTRODUCTION.

CHAPTER I.

Mobilization and Concentration.

	PAGE
Declaration of War by France	1
Mobilization of her Army ordered	1
Prussia and her allies	1
Alliances hoped for by Napoleon	2
The national spirit of Germany	2
The King of Prussia, Commander-in-Chief of the German forces	2
Mobilization of the German forces ordered	2
Their division into three Armies and a Reserve	2
Von Moltke, Chief of the Royal Staff	2
Napoleon, Commander-in-Chief of the Army of the Rhine	3
Le Bœuf, Chief of the Imperial Staff	3
Strength of the opposing forces	3
First French concentration completed July 20th	3
Description of the theatre of war	3
Organization, strength, and disposition of the Army of the Rhine	4
Napoleon's plan of campaign	4
French movements up to July 24th	5
Concentration of German forces	5
Von Moltke's plan of campaign, drawn up in 1867—68	5
Reasons for the disposition of three Field Armies	6
The offensive, the main-spring of the plan	6
The possibility of having to act on the defensive considered	7
German information of French movements	8
Napoleon's plan of campaign foreseen	9
Change in disposition of the Second Army	9
Napoleon joins the Guard, July 28th	9
His new project	9
French information as to German dispositions	10

	PAGE
Great dissemination of the French forces	10
Description of the Saar and its valley	10
Strength of Prussians on the Saar	10
Prussian reconnaissances	11
French reconnaissances	11
Ignorance of French Head-Quarter Staff as to the enemy's dispositions	12
Neglect of the French to use their cavalry	13
Reasons for this	13
Organization of French and German cavalry	13
Information possessed by the French	14
Result of Napoleon's Council of War	14
Unreadiness and inactivity of his Army	14
Concentration of the German Armies	16
Positions of their Army Corps	16
German system of mobilization	17
French	19
German system of concentration	20
French	21
French illusions as to the transporting power of railways ..	21

CHAPTER II.

The Characteristics of the Armies.

European wars since the Crimea	22
France still considered the first of military nations	22
Her contempt of Prussia	23
Her neglect of reforms	23
Attempts of Napoleon and others to initiate reforms	23
Evil influence of Imperial Court and party	24
Character of the French officers	24
Outward aspect of the Army	24
Training of the troops	25
Want of discipline	25
Effect of political changes	26
Teaching of the Algerian campaigns	26
Characteristics of strength	26
Napoleon as Commander-in-Chief	26
The French guns	26
The Garde Mobile	27
Field entrenchments	27
True cause of the deterioration of the army	27
 The King of Prussia as Commander-in-Chief	 28
His choice of advisers and subordinates	28

	PAGE.
Discipline of the army	28
The system of training	29
Field manœuvres	29
Tests of capabilities of the officers	29
Individual instruction	30
Result of the system of training in 1866	30
Responsibilities of the officers	30
Moral training of the soldiers	30
Great attention given to close-order drill ..	31
French regimental system	31
German regimental system	31
The company chief	31
French system—one of centralization	32
Absence of tactical training	32
Evils of centralization, and inadequacy of parade movements as a preparation for battle	33

INFANTRY.

Musketry	33
The rifles	34
Marching	34
Strength of infantry regiments	34
Tactical unit and formations	34
German official instructions for attack	35
French official instructions for battle	36
The defensive and offensive considered	36
Field entrenchments	38
Supply of ammunition	38
Want of tactical instruction in France	38

CAVALRY.

The Prussian cavalry in 1866	39
Reforms in organization and tactics	39
Divisional cavalry	39
The cavalry division	39
The French cavalry	39
Indifferent training and tactics	40
War organization	40
Strength	40

ARTILLERY.

The Prussian artillery	40
Projectiles	40

	PAGE
The lessons of 1866	40
The French artillery	41
Projectiles	41
<hr/>	
THE MITRAILLEUSE	41
<hr/>	
THE STAFF... ..	42
<hr/>	
THE TERM OF SERVICE	44

CHAPTER III.

The Combat of Saarbrücken.

The reasons for the French advance	47
Their want of information of Prussian dispositions... ..	47
Position of their Corps d'Armée	48
<hr/>	
Strength of Saarbrücken garrison	48
The Prussian position	49
Strength of garrison on 19th July	52
Disposition of the outposts from 19th—30th July	52
Details of patrolling between these dates... ..	53
<hr/>	
Arrival of reinforcements	56
Redistribution of outposts	57
Criticism of an English officer present	58
The 2nd of August	59
The advance of the French	60
The ridge evacuated by the Prussians	62
Hesitation of the French to occupy the town	62
Retreat of the Prussians on Lebach	64
Expenditure of ammunition	64
Casualties on either side	64
Criticism on the action... ..	65
The Prussian commander neglects to keep touch of the enemy	65

CHAPTER IV.

The French dispositions from 2nd to 5th of August.

	PAGE
The Prussian scouts	67
Reconnaissance towards Saarlonis countermanded on the 3rd	68
Napoleon changes his plans three times within*twenty-four hours	69
The French Army divided into two wings under Marshals Bazaine and McMahon	70
Orders issued on morning of 6th August	70
Napoleon's proposed flank march	70
Excuses for his delay	71
His neglect to enlighten his subordinates as to his intentions	71
Frossard suggests the withdrawal of the 2nd Corps d'Armée to the Spicheren Heights... ..	72
He leaves the bridges intact	73
Dispositions of French on 5th of August... ..	73

CHAPTER V.

The German Advance to the Frontier.

General situation of Prussian troops on July 29th	75
Change of destination of First Army	75
Orders to the cavalry	75

ADVANCE OF THE SECOND ARMY.

A hazardous operation	76
Manner in which it was carried out	76
Position of Second Army on 3rd of August	78
News of the action of Saarbrücken and measures adopted in consequence	78
Information obtained by the cavalry divisions	79
Von Moltke's orders to Second Army	79

ADVANCE OF THE FIRST ARMY.

Flank march from Trèves to Losheim	80
News of the action of Saarbrücken and measures proposed by Von Steinmetz	82
First Army changes position	82

	PAGE
Von Moltke vetoes Von Steinmetz's proposals	83
His orders to the First Army	83
Orders issued by Von Steinmetz in consequence	84
Security assured by the presence of the cavalry divisions	84

ADVANCE OF THE SECOND ARMY.

Dispositions on night of 4th of August	85
Cavalry reconnaissances	86
Movements of the Second Army on 5th August	87
Cavalry reconnaissances	88
Von Moltke's intentions on night of 5th of August... ..	89
He does not communicate these intentions to the army commanders	89
The result of this secrecy	90
Reinforcements arrive for the First Army	90
Extent of front covered by the cavalry divisions	90

CHAPTER VI.

The Battle of Spichern.

Advance of German troops to the Saar	91
Strength of French opposed to them	91
Original project of German head-quarter staff	91
Modified by reports of cavalry	91
Instructions to 5th and 6th Cavalry Divisions	91
Instructions to commander of First Army	92

Destinations of the Army Corps of Second Army	92
Report of French withdrawal from Saarbrücken Ridge	93
Measures taken by commander of Second Army	93

ARMY ORDERS OF 1st ARMY, ISSUED 5th AUGUST.

Late arrival of an important telegram from Von Moltke	94
Advance of First Army	95
Formations of 13th and 14th Divisions	95
Composition of advanced guards	96
Reflections on strength of advanced guards	97
Strength regulated by its duties	98
What its duties are	98

	PAGE
Necessary that the commander should have information as to general situation	99
Reflections on the distance to the front of advanced guards...	99

ADVANCE OF SECOND ARMY.

Formation of 5th Division	100
Advanced guard of 9th Brigade	100

STRENGTH AND DISTRIBUTION OF THE GERMAN CAVALRY.

3rd Cavalry Division	101
5th Cavalry Division	101
6th Cavalry Division	101
Extent of front covered	101
Reconnaissances of 5th and 6th Cavalry Divisions	102
Lieutenant-General Von Rheinbaben reaches the Saarbrücken Ridge	103
He reports army's movements to commander of Second Army	103
Commander of VIII Army Corps reaches the Ridge	103
Commander of 9th Brigade, 5th division, III Army Corps, arrives	104
Deductions drawn by these officers from appearances to the front	104
Impression that the French were retiring... ..	104
Examination of the evidence	104
The Spicheren Plateau not yet reconnoitred	106

Action of the 14th Division, VII Army Corps	106
Arrive at Guichenbach, 7 miles from Saarbrücken	107
Cavalry report withdrawal of the French	107
Measures taken by divisional commander	107
Advanced guard pushes forward	107
Met by commander of VIII Army Corps	107
Movements of 16th Division, VIII Army Corps	107
Movements of 9th Brigade, III Army Corps	107

THE BATTLE. 11 A.M.—12 NOON.

Occupation of Saarbrücken Ridge by advanced guard of 14th Division	108
---	-----

	PAGE
View of French position from Drill-ground Hill	108
French artillery come into action at 11.30	108
Orders to main body of advanced guard	109
Von Kamecke's change of purpose	109
Reports of cavalry as to strength of the French	109
Von Kamecke determines to attack	110
Reflections on his decision	110
Necessity of careful reconnaissance	110
Battle the end of the strategy of the Commander-in-Chief	111
Evil result of precipitate action of leaders of advanced guards	111
Duty of leader of advanced guard	111
Unfortunate absence of troops who knew the ground	112
The action of the German cavalry scouts considered	112
Von Kamecke's decision discussed	113

DISPOSITION OF FROSSARD'S THREE DIVISIONS.

Telegram from Napoleon	117
Measures taken in consequence	117
Shortcomings of the French generals	118
Frossard's telegrams to Bazaine... ..	119
Bazaine's reply	119
His indecision	120
His neglect to reconnoitre	120
Frossard resolves to stand his ground	120
The disadvantages of his position	121
The evacuation of the ridge by his divisions	121

Description of the position	122
The Spicheren Plateau and the Rotherberg	122
The woods	122
The interior of the plateau	123
The view from the heights	125
The Forbach Valley	125
The Golden Bremm and Baraque Monton	125
The Folster Height and the Galgenberg	125
Stiring-Wendel Village... ..	126
The Stiring Copse	126
The Drathzug Farm.	127
The Kaninchenberg	127
The apparent strength of the position	127
Compared with Bragg's position before Chattanooga	128
Reflections on Frossard's choice of a main line	128
Advantages and disadvantages	128
The Rotherberg salient	134
Neglect to entangle the woods	135

CONTENTS.

xvii.

	PAGE
Frossard's errors	135
Distribution of his troops	136
Reconnaissances of cavalry	136
Garrison of the Rotherberg	136
Garrison of Golden Bremm	137
Garrison of Kaninchenberg	137
Position of reserves	137
Defensive works	137
Dispositions discussed	138
Failure to reconnoitre	138
Effect of neglect of ordinary precautions	138

Attention of Germans to details	139
Result of knowledge solidified into instinct	139

Von Kamecke's instructions to 27th Brigade	139
The whole of his artillery and 28th Brigade ordered up	140
Dispositions for attack made by commander of 27th Brigade	140
Rashness of German generals	140
Weak formation adopted	141
Importance of careful preliminary measures when attacking	141
Movements of German artillery	141

THE RIGHT ATTACK. 12 NOON—2.30 P.M.

Advance of III/39 and II/74 through the Stiring Copse	142
Repulse of those battalions	143
Arrival of support, three companies of I/74	144
The battle restored	145

THE LEFT ATTACK. 12 NOON—2.30 P.M.

Flank movement of I and II/39	145
Fight in the Gifert Wood	146
Strength of French on this wing	147
Critical position of the two German battalions	147
Movement of German artillery to second position	147
Withdrawal of French guns before oblique fire	147
Von Kamecke orders his reserve to attack the Rotherberg	148
Advance of German batteries to the Galgenberg	148

THE CENTRAL ATTACK. 1.10 P.M.—2.30 P.M.

Advance of I & F/74 of 27th Brigade across the open valley	148
--	-----

	PAGE
The fusilier battalion of the 74th reaches foot of the Rotherberg	149
Effect of artillery fire on the defenders of the Rotherberg ...	150

STATE OF THE ENGAGEMENT AT 2.30 P.M.

Advanced guards of 5th and 16th Divisions approaching St. Johann	150
Position of 28th Brigade	150
Arrival of General Von Doring, 9th Brigade	151
The French opportunity	151
Absence of Frossard from the field	152
He allows the opportunity to escape	153
Reinforcements of 25,000 men expected by the French ...	155
Indifference of the generals who commanded these 25,000 ...	155
Necessity of maintaining communications between bodies of troops	155

Reinforcements expected by the Germans	156
Commander of 16th Division anticipates orders and marches to the sound of the cannon	156
Movements of 13th Division; orders again anticipated ...	157
Action of Head-quarters, First Army on receiving report of battle	158
Movements of 9th Brigade; orders again anticipated ...	159
Action of general commanding III Army Corps	160
6th Cavalry Division assembles near Eusheim in consequence of a false report	160
10th Brigade ordered to Saarbrücken	160
35,000 infantry on the march to the battle-field	160

THE BATTLE ON THE PLATEAU, 2.30—3.30 P.M.

Counter-stroke of Laveaucoupet's division	161
Repulse of I/39	161
French suddenly draw off from the attack on II/39	162
Von Kamecke's order to assault the Rotherberg	162
French pursuit of I/39 checked by 48th	162
The storming of the horse-shoe trench by F/74	163
Opportune arrival of 9/39	164
Death of General Von François	164
Counter attacks of French checked	164
State of affairs within the Gifert Wood	165

CONTENTS.

xix.

	PAGE
Reflections on the surprise of the defenders of the horse-shoe trench	165
Reflections on sudden cessation of French attack in Gifert Wood	165
Arrival of two battalions of the 48th Regiment on Saarbrücken Ridge	166
Disposition of French troops	166

THE BATTLE IN THE VALLEY. 2.30—3.30 P.M.

Arrival of I/53 on left of the Coal-Pit Ridge	167
Advance of 5 Prussian companies in the Stiring Copse	168
The Coal-Pit Ridge stormed by II/74	168
Vergé calls on Frossard for support	168
The French abandon the Stiring Copse	168
Two companies of I/74 cross the railway covered by half of 1st company	168
French artillery compelled to fall back by the fire of III/39 from the copse	168
Vergé reinforced by a battery, 4 squadrons, and 32nd Regiment	169
Strength of opposing forces on this wing	169
Movements of 28th Brigade from 12.15 p.m.	169
Battalions lose connection in Saarbrücken Forest	170
The Brigade drifts into four distinct portions	171
Loss of tactical order along the whole Prussian front	171
General rule for distribution of attacking force	171
Cause and effect of this confusion	171
How confusion might have been avoided	172
Ill effects of disorganization on Prussian attack	173
Injudicious flanking movement of 28th Brigade	173
Reflections on such movements	173
Reflections on brigade-leading in a close country	174
Neglect to maintain communication with the brigadiers	174
Paucity of staff officers in German Army	174
Precautions necessary for an advance in close country	175
Use of mounted infantry	175
Errors of Von Kamecke's generalship	177
Resolute leading of subordinate commanders	178

CHAPTER VII.

The Battle of Spicheren—CONTINUED.

THE ARRIVAL OF REINFORCEMENTS.

THE BATTLE ON THE PLATEAU. 3.30—5 P.M.

	PAGE
Arrival of General Von Goeben, commanding VIII Army Corps	179
Arrival of Frossard's reserve division	179
Critical situation of Germans on the plateau	179
Von Goeben's determination	179
Arrival of 15th Prussian Hussars and two batteries	179
Arrival of 48th Regiment on Winterberg	180
Advance of I & F/48 against French right	180
Arrival of 40th Regiment	181
Advance of 40th to Gifert Wood and Rotherberg	181
Arrival of General Von Alvensleben, commanding III Army Corps	182
Arrival of I and II/12	182
Advance of I/48 and II/12 to Gifert Wood	182

STRENGTH OF OPPOSING FORCES ON THE HEIGHTS,

AT 5 O'CLOCK.

Critical situation of Prussian infantry on the Rotherberg	182
Counter-strokes of French	182
Effective support rendered by German artillery	183
Objectives of the batteries	183
Practice of gunners	183
Arrival of General Von Zastrow, commanding VII Army Corps	184
Division of command between German generals	184
French occupy portion of lower border of the Gifert Wood	185
The Prussian troops on the Rotherberg signal for assistance	185
Joined by III/40 & I/12	186
French driven back	186
Prussians on the Rotherberg fired on by their own troops	188
Two Prussian companies open fire without orders	188
I/12 becomes broken up into two portions	188
Four companies of 3 different regiments seize lower border of Gifert Wood	188
Great confusion induced by the charge	189

	PAGE
Western quarter of Gifert Wood taken by 11/48	189
The situation at 5 o'clock	190

THE BATTLE IN THE VALLEY. 3.30—5 P.M.

THE CENTRE.

French troops in occupation of centre of position	191
Successful Prussian attack in close order upon the homesteads	192
Effective support given by Prussian batteries	192
Errors of the French	192
Disposition of French reserve division and reserve artillery ..	193

THE RIGHT WING.

Wide turning movement of Prussian 28th Brigade... ..	194
55th French Regiment and 2 batteries reinforce the garrison of the Stiring Wendel	194
Counter-stroke of French recaptures part of Stiring Copse ...	194
French again driven back by Prussian reinforcements	195
Strength of French at this point	195

TURNING MOVEMENT OF 28th BRIGADE.

1/53 retires having lost connection with remainder of brigade	196
P/53 forces French back into the foundry	196
Alarm given on right flank causes withdrawal of this battalion to the wood	196
A mixed detachment of two regiments once more seizes houses near foundry	197
Skirmishers approach within 70 paces	197
Precarious situation of the Prussians along the whole front of battle	197
Artillery unable to aid the infantry	198
Effect of the determined attack of the Prussians	198
French prospect of success still favourable	198
Prussians rely on movement of 13th division against French line of retreat	198

THE BATTLE ON THE PLATEAU. 5—6 P.M.

The fight in the Gifert Wood	199
Number of troops engaged	199
Characteristics of their training and discipline	201

	PAGE
The Prussians take the wood	201
The French retire in good order, and retake the S.W. corner by a counter-stroke	202
Confusion in the Prussian ranks... ..	202
The fight upon the Rotherberg	203
Prussian attempts to advance and French counter-strokes repulsed	203

THE POSITION OF AFFAIRS UPON THE PLATEAU At 6 P.M.

Von Goeben telegraphs to the King that success is ensured ..	203
Prussians abandon all idea of further frontal attack ...	204
A flank attack decided on	204
Withdrawal and losses of French artillery	204
Arrival of Prussian 9th brigade	204
Instructions to leading battalion	205
Advance of I/8 Grenadiers (3 companies)... ..	205
Flank attack made by this battalion	205
It recaptures S.W. cover of Gifert Wood	206
Frossard's error in not dividing his position into sections ...	207
Disadvantages of a broken position	207
Disposition of the French reserve division	208
Attempts of French to recapture the homesteads repulsed ...	208

CHAPTER VIII.

The Battle of Spicheren—CONTINUED.

THE BATTLE IN THE VALLEY. 5—7.30 P.M.

Situation round Stiring Wendel	209
Appearance of French reinforcements	209
Greater portion of Prussian force retreats to Drathzug ...	209
The fight for the copse	210
Gallant resistance of III/39 & II/77	210
Attack of Bataille & Vergé with six battalions	211
Advance of French batteries	212
Prussians forced back to the centre of the copse	212
Batteries unable to give assistance	212
General Von Zastrow orders batteries to advance to Folster Heights (4th position)	213

	PAGE
The French recapture the whole of the copse, except the northern outskirts	213
Sudden withdrawal of Bataille's battalions	214
The 13th Prussian Division appears before Forbach	214
Frossard orders a general retreat to the heights	214
His reasons for so doing	215
Reflections on the fight round Stiring Wendel	215

THE BATTLE ON THE PLATEAU. AFTER 6 O'CLOCK.

Dispositions of French troops for defence of second line	217
Attempt of Prussians to advance from Gifert Wood	217
Cavalry brought up to the plateau and driven back	218
2 batteries of artillery brought up	219
Heavy losses of artillery	219
Duel between Prussian guns and French riflemen at 800 yards range	220
The French infantry are finally driven from their trenches	220
Counter-strokes of French against Gifert Wood	221
Moral effect of artillery fire on Prussian infantry	221
Small influence of superior officers in firing line	221
Favourable position of the French	222
Prussians decide upon a flank attack on plateau	223
7 battalions and 2 batteries despatched on this mission	223
First attempt fails	224
Confusion during the retirement	224
Attack on Spicheren Wood	225
Precautions taken to guard the exposed flank of the attack	225
Strength of French troops in Spicheren Wood	226
Counter-stroke of the French against this attack	227
Fight for the Spicheren Wood	227
Success of the Prussians	227
Intermingling of units	227
Final position of the French	228
Situation at 7.45	229
Counter-stroke of the French against the Rotherberg and Gifert Wood	229
Partially baffled by flank fire of one company from Spicheren Wood	230
The counter-stroke repulsed	231
Prussian attack from Spicheren Wood on the Forbacherberg repulsed	231
Unmolested withdrawal of the French from the Forbacherberg and Spicheren Ridge	232

THE BATTLE IN THE VALLEY. AFTER 7 O'CLOCK.

	PAGE
Prussian infantry reserves already disposed of when Bataille makes his counter-stroke	233
Advance of the 52nd Regiment to assist L'Estocq's attack on the heights	233
Six companies diverted to Stiring Wendel by heavy fire of French artillery... ..	233
The advance of the remaining five companies on the Forbach-berg	233
Attack of the six companies under Major-General Von Schwerin checked by French guns... ..	234
A Prussian battery advances to their support	234
French batteries withdraw	234
The six companies of the 52nd Regiment under Von Schwerin renew the attack on Stiring Wendel	235

REAR GUARD ACTION.

The Prussian attack checked	236
The shelter trenches and the foundry carried	237
The southern portion of Stiring Wendel carried by the 52nd at 8.45	237
Fighting continues in northern quarter till after 11.	237
Unmolested withdrawal of the French to the Spicheren Heights	237
Instances of dispersion of larger units	237

THE TURNING MOVEMENT OF THE 13th DIVISION.

Movements of advanced guard up to 4 o'clock	238
The cannonade no longer heard	239
At 6 o'clock the cannonade again becomes audible	239
Orders arrive for the division to join in the battle, but have already been anticipated	239
Order of the advance against the Kaninchenberg	239
The attack on the French position covering Forbach	239
Strength of the French... ..	239
Action of French dragoons	240
French retreat unmolested	240
Prussian artillery prevent a railway train from entering Forbach	240
The troops do not enter the town	240

PRUSSIAN OUTPOSTS AFTER THE BATTLE.

	PAGE
2 unengaged battalions posted on left	241
F/12 posted in centre	242
52nd Regiment on right	242
Cavalry patrols towards Etzling and Grossbiederstroff ...	242
Bivouac of 5th division on the Reppertsberg	242
Arrival of I and II/20	242
Bivouac of 14th division	242
Arrival of II/53 after a march of $27\frac{1}{2}$ miles in 13 hours ...	242
Arrival of main-body of 16th division	242
Bivouac of 16th division	242
Bivouac of artillery	242
Arrival of 10 additional batteries	242
Prisoners and matériel captured by Prussians	243

Resumé of the battle	243
The available reinforcements on either side	243
Bazaine's conduct during 6th August	244
Movements of Montaudon's division	249
" of Castagny's division	249
" of Metman's division	249
Action of these generals discussed	250
Compared with that of the Prussians	250
Difficulties of the initiative when on the defensive	252

CHAPTER IX.

THE TACTICS OF THE BATTLE.

The retreat of the French to Saarguemund	253
Privations of the troops	253
Frossard's conduct of the battle discussed	255
The active defensive	256
The French counter-strokes at Spicheren	258
Effect of artillery fire on ill-disciplined troops	260
Von Kamecke's conduct and its results	260
The failure of the Prussians to pursue	262
Confusion of the attacking infantry at Spicheren	262
The company column, and large v. small companies	264
Means of mitigating confusion	264
Advantages of close order in the attack	266
Manner in which close order may be employed	267
Necessity of careful preliminary dispositions	270
Prussian and French systems of attack compared	274

	PAGE
Manner in which individual initiative and unity of the mass may be combined	275
The group system	275
Wood fighting... ..	276
Wood fighting in the American war of 1861—65	277
Rôle of mounted infantry	277
Shooting and fire discipline of Prussian infantry	278
Long range fire	279
The tactics of the Prussian artillery at Spicheren	280
The tactics of the French artillery at Spicheren	281
Employment of cavalry at Spicheren	281
Marching powers of the Prussian infantry	282
Criticism of the Staff History on tactics of the war	283

CHAPTER X.

TRAINING AND TACTICAL LEADING.

Minor tactical errors of subordinate commanders	285
Conspicuous tactical ability of Prussian officers	286
Absence of effective independent action on part of French officers	287
Reason of this deficiency	287
Initiative in the Prussian army	287
Views of Von Gneisenau and of Wellington	288
Need of initiative in regimental officers under present conditions	289
Manner in which ill consequences of such initiative may be prevented	289
The training of Prussian officers... ..	289
Influence of the general staff	293
Von Moltke's great work	293
How skilful tactical leading may be acquired	293
Necessity for training the judgment	294
Necessity for strict discipline and constant practice	295
Influence of individual character in war	295
Development of character of officers under Prussian system... ..	297
Success generally follows the more skilful tactics	297
The evil result of the neglect of tactical training by the French	298

APPENDIX.

APPENDIX I.

Strength of Prussian forces at Spicheren...	..	...	1
Strength of French forces at Spicheren ..	...	...	2
Losses of the Prussians... ..	...	...	2
Casualties amongst the officers ... ..	...	...	4
Losses of the French ... ..	...	...	4
Casualties amongst the officers .. ..	...	...	5

APPENDIX II.

Order of Battle. German ... ..	...	...	7
Order of Battle. French ... ..	...	...	8

APPENDIX III.

Questions to be solved by the reader	10
---	----	----

MAPS AND SKETCHES.

Battle-field of Spicheren	...	...	...	<i>Frontispiece</i>
				TO FACE PAGE
Sketch map of the Theatre of War	...	...	...	1
The Theatre of War, July 19th to August 6th	...	...	...	3
Relief map of Lorraine and the Palatinate	...	...	...	10
Disposition of opposing forces, evening of July 31st	...	...	...	48
Battle-field of August 2nd, and outposts, August 1st	...	...	...	57
The advance of the Second Army from the Rhine	...	...	...	76
The advance of the First Army from Trèves	...	...	...	81
Disposition of opposing forces on night of August 5th	...	...	...	91
View of the battlefield from the Winterberg	...	...	...	123
Situation and strength of the opposing forces, 2.30 P.M.	...	...	...	151
View of the Rotherberg	...	...	...	162
Situation of the opposing forces, 3.30 P.M.	...	...	...	162
" " " " 5 P.M.	...	...	...	198
" " " " 7 P.M.	...	...	...	214
Attack on Spicheren Wood	...	...	...	226

INTRODUCTION.

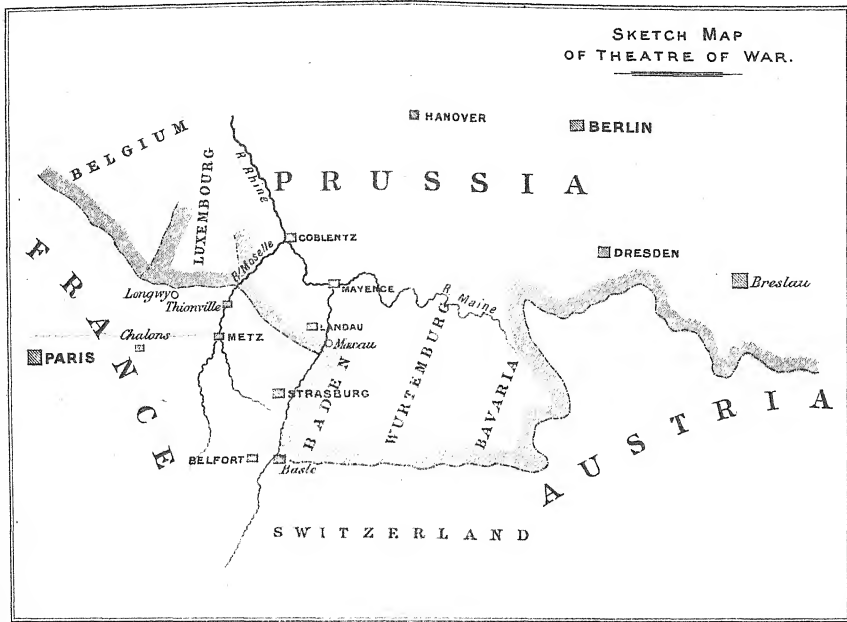
Fought on the 6th of August, 1870, Spicheren was one of the earliest engagements of the Franco-German war.

Little had as yet occurred to shake or strengthen the morale of either army, and the merits of the systems under which each had been organized and trained were then, for the first time, fairly tested. From a consideration, therefore, of the incidents of the battle, it will not be difficult to arrive at a just conclusion as to the relative efficiency of these systems. A sketch of them will precede the account of the actual combat; and this, with a brief relation of the events which led to the collision, and some account of the temper and discipline of the troops, should give the reader a clear understanding of the various forces which influenced the issue. Armies are bodies of extreme sensibility, affected by a variety of circumstances; and, unless the study of warlike operations is accompanied by a knowledge of the moral and physical condition of the combatants, no useful deductions can be drawn.

Moreover, if we except the action at Weissenburg, fought on the 4th of August, and the battle of Woerth, fought also on the 6th of August, Spicheren was the first great engagement under the new conditions of breech-loader *versus* breech-loader.

1 2 3 4 5 6





THE BATTLE OF SPICHEREN.

CHAPTER I.

THE MOBILIZATION AND CONCENTRATION OF THE ARMIES.

On the evening of the 14th of July, Napoleon and his advisers had resolved on war. His formal declaration was not presented at Berlin until the 19th; but on the 15th, the mobilization of his forces had been ordered, and the regiments which were to form the Field Army immediately moved forward to the frontier.

The French message of defiance had named but a single State.

The quarrel was with Prussia, and with her alone. But Prussia was no isolated kingdom. The principalities and duchies of North Germany were her vassals, those of South Germany her allies.

But Saxony and Hanover in the north; Baden, Bavaria, Wurtemberg and Hesse-Darmstadt in the south, had leagued with Austria against her in 1866. The memories of their defeat were still green in 1870, and Napoleon had some ground for hope that the treaties imposed after the crowning victory of Sadowa, would be as eagerly repudiated as they had been reluctantly subscribed.

Italy, also, was bound by ties of gratitude to the sovereign whose arms had restored Lombardy to her dominion in 1859; and both Denmark and Austria were now offered an

opportunity of repaying the debt of vengeance they had incurred in '64 and '66.

The French Emperor, therefore, when he so suddenly rushed into war, appears to have done so in the expectation of finding allies beyond the Rhine; to have believed that his first success would raise the standard of revolt in Dresden and in Hanover; that it would be no difficult task to bind the South Germans to neutrality; and that Austria and Italy would ultimately lend him active aid.

It would serve no useful purpose to inquire whether, as regards the three European Powers, these expectations were justified—they certainly were never realized; but, astute as he undoubtedly was, Napoleon was far from comprehending the vitality of that spirit of pride in their common nationality which lies deep in the heart of every German people. Smouldering indeed during the fratricidal war of 1866, it was still unquenched, and the first threat against the integrity of the Fatherland fanned it into sudden and enduring flame. Prussia was not loved, it is true, beyond the Maine, but France was the hereditary enemy. The Southern States stood staunchly to their bonds. Saxon and Hanoverian soldiers ranged themselves beside the Prussian eagles, to show themselves in the days to come as strong in friendship as once in enmity; and the gauntlet so recklessly cast down was picked up by the strong hand of a United Germany.

By the treaties of 1866, the supreme command of the German forces was vested in the King of Prussia. Ordered to mobilize on the 15th July, they were the next day organized into three distinct Field Armies and a Reserve.

The First Army, composing the Right Wing, under General Von Steinmetz.

The Second Army, composing the Centre, under Prince Frederick Charles.

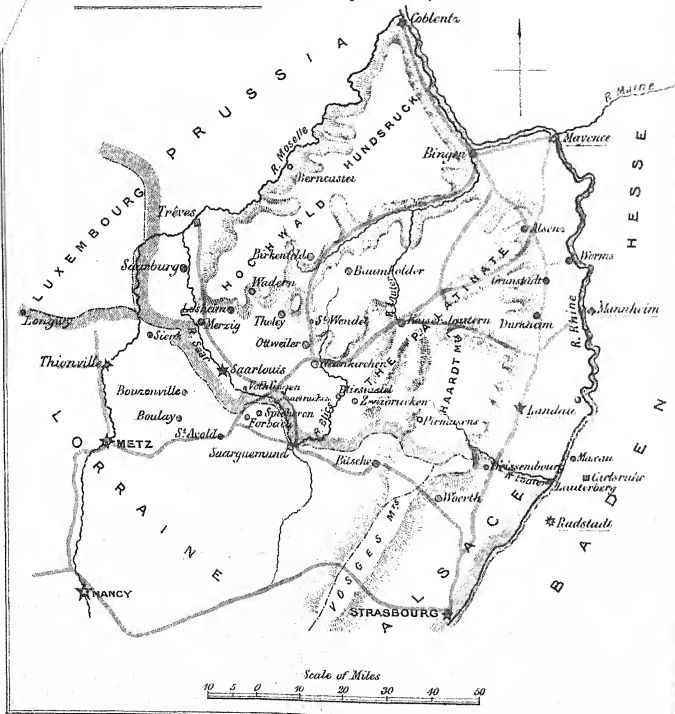
The Third Army, composing the Left Wing, under the Crown Prince.

The Reserve at the disposal of the King.

The strength of the whole force, when the reserve men had come in, would amount to 480,000 men, with 1,584 guns.

The Chief of the Royal Staff was General Von Moltke, the same great soldier who held that post in 1866.

THE THEATRE OF WAR. (July 19th to Aug. 6th)



Napoleon, with Marshal le Boeuf as "Major-General," or Chief of the Staff, led his troops in person.

The French Field Army, named at the outset "The Army of the Rhine," consisted on paper of 336,000 men with 924 guns. Of these, 300,000 men were expected to be available for active operations.

The German Field Armies, that is, the contingents of the north and south combined, out-numbered, therefore, that of France by 184,000 men and 660 guns.

On the 20th July the concentration of the French regiments on the frontier was generally completed. The Corps d'Armée were organized and assembled, awaiting only their reserves and matériel.

The frontiers of the rival powers were contiguous from the borders of Luxembourg to the town of Basle, a distance of 220 miles.

The portion which concerns the campaign about to commence was the upper half, between Longwy and Lauterburg. On reference to the map it will be seen that between these towns the line of demarcation runs almost due east and west, leaving the then French provinces of Lorraine and Alsacé to the south, and the district called by the Germans the Palatinate to the north. From the border of Lorraine, the Rhine is from 60 to 80 miles distant; whilst a few miles on the German side of the frontier and parallel to its general direction, flows the River Saar, the natural, although not the actual, boundary between the French province and the Palatinate.

The latter district is generally hilly and well wooded; and the western portion, the Hochwald and the Hundsruok, is especially rugged and capable of defence.

The Vosges Mountains, running a little east of north from Belfort to the Rhine, cut the frontier between Bitsche and Weissenburg almost at right angles, interposing between the two great fortresses of Metz and Strasburg; and as they approach the Rhine, spreading out into numerous spurs, across which, pass the roads and railways which connect Paris and Berlin.

Between the northern portion of this range, the so-called Haardt, and the Rhine, extends a strip of open country,

which, below Worms, is highly cultivated, gently undulating, and for the most part free from forest.

The breadth of the level country is twenty miles. If we follow the direct road from the Rhine to Metz, the capital of Lorraine, two-and-thirty miles of mountain have to be traversed before we emerge on another comparatively open tract, roughly speaking some fifteen miles square, extending from Homburg at the foot of the Haardt to Saarbrücken on the Saar. This tract is bounded on the west by the rugged Hundsruok, on the east by the main chain of the Vosges. Ottweiler, Zweibrücken, Saarlouis and Saarguemund mark the four corners of the square; Neunkirchen and Saarbrücken the centre of the northern and southern sides.

The Army of the Rhine was divided into eight Corps, located as follows:—

1st & 7th, in Alsace, forming the Right Wing.

2nd, at St. Avold,

3rd, at Metz,

4th, at Thionville,

5th, at Bitsche,

The Imperial Guard at Nancy,

in second line.

} in Lorraine, forming
the Left Wing.

6th, at Châlons, in third line.

The strength of the Left Wing, with which we have to do, amounted, on the 20th July, to 100,000 men, to be augmented by the reserves to 150,000. Of its five Corps d'Armée, the 2nd, 4th & 5th, 60,000 strong, had already assembled within a few miles of the frontier.

Aware of the preponderating strength of the German forces—for the army of Prussia alone was larger than that of France—Napoleon had determined to balance his inferiority in number by rapid movement and skilful strategy.

Without waiting to mobilize his regiments on a peace-footing, and but partially equipped for active service, assembled round Metz and Strasburg. As soon as their reserve men and matériel had come in, he proposed to bring together his right and left wings, 100,000 and 150,000 strong respectively; and crossing the Rhine at Maxau, 48 miles below Strasburg, to thrust himself between the North and

South Germans; to bind the latter to neutrality, and then to turn against the Prussians. At the same time, the navy was to threaten a descent on the Baltic provinces, and retain part of the Prussian force in that distant quarter. A design, sound enough in strategy, but depending for success on a mobilization and concentration more rapid than that of the enemy.

"It was necessary," says Napoleon, "to assemble in a few days, on points already determined, not only the requisite number of men, but the essential accessories, such as engines, the supply trains, the ammunition columns, the bridging matériel, the gun boats to protect the passage of the Rhine, and lastly the supply of biscuit, indispensable to a large army marching united."

On the 21st July the Left Wing began its movement. The 2nd Corps d'Armée pushed forward from St. Avold an infantry division and a brigade of cavalry to Forbach, four miles within the frontier, and supported this force by a second infantry division at Bening, six miles in rear.

On the 24th, the remainder closed in upon the centre :—

The 3rd Corps from Metz to Boulay.

The 4th Corps from Thionville to Bouzonville.

The 5th Corps to Saarguemund, leaving a division at Bitsche.

The Guard from Nancy to Metz.

On the same day the great concentration of the German troops began. The regiments had already left their barracks; and in accordance with a project drawn up in the winter of 1867-8 by General Von Moltke, which not only laid down the organization of the field force and the areas of concentration, but forecast with remarkable accuracy the numbers, design, and dispositions of the French. It was at first intended that the Army Corps composing the three Field Armies should take post at the following rendezvous :—

The First Army, 70,000, the line Saarlouis-Merzig.

The Second Army, 130,000, the line Volklingen-Zweibrücken.

The Third Army, 131,000, the line Landau-Rastatt.

The Reserve, 63,000, Mayence.

In order to watch Austria and the Baltic Coast, three

Army Corps, 90,000 men, in addition to the foregoing, still remained in Prussia.

The French and German frontier marched, as has been said, from Longwy to Basle. To the north, Luxembourg and Belgium; to the south, Switzerland, interposed, and the contingency of their neutrality being violated by the weaker belligerent was held by the German staff to be remote.

Nor had they reason to fear that invasion would come from the southern portion of the frontier, for had the French chosen such a course, the direct road from the Rhine to Paris would have been left free to the enemy; and, moreover, Von Moltke had foreseen that the strategic purpose of Napoleon, did he determine on attack, would be to strike in between the north and south, and to drive the allied states asunder.

The river Maine, forming the boundary between North and South Germany, joins the Rhine at Mayence, and it was evident that to achieve his purpose the enemy would have to cross the river somewhere in this neighbourhood. The point where attack was to be expected being thus determined, the next step was to select positions for the three Field Armies which would both baffle such an operation, and, at the same time, serve as an advantageous starting point for invasion; for, be it noted, an active offensive was the main-spring of Von Moltke's plans. Relying not only on numerical preponderance, but also on the knowledge that, thanks to their superior organization, the mobilization and concentration of the German Field Armies could be effected before that of the French, he was not disposed to surrender the manifold advantages of the initiative. His project pointed out that if the French made full use of their railways to concentrate as rapidly as possible on the frontier—and there was little doubt but that they would adopt this line of action—their troops would disembark at Metz and Strasburg, the nuclei of the great railways which connected Paris and the Eastern provinces. Three lines converged on Metz, and two on Strasburg. It was therefore confidently assumed that, at the outset, the larger portion of the French army would assemble in Lorraine.

Now the key-note of the German offensive was this: to

seek out the main force of the enemy and attack it. This force would be met in Lorraine.

The concentration therefore, of the First and Second Armies, supported by the Reserve, opposite Metz, on either side the great road and railway from Paris, by way of Saarbrücken, to the Rhine, placed the bulk of the German forces opposite the bulk of the French. Again, this road and railway were the easiest line for the invasion of France, for they passed the obstacle of the Vosges Mountains in German territory, and were the shortest and most direct routes to the French capital.

But, whilst an invasion of France was uppermost in Von Moltke's mind, every eventuality had been considered. The positions he proposed that the three Field Armies should occupy were, as will be seen, as favourable for defence as for attack.

The First Army, concentrating on the line Saarlouis-Merzig, would hold a rugged district, easily defended. It was protected on the right flank by the neutral territory of Luxembourg, and on the left by the Second Army. If called upon to assume the offensive, it was to act in concert with the latter.

The Second Army, concentrating on the line Volklingen-Zweibrücken, was the most advanced. If attacked by superior numbers from Metz, it would fall back through the mountains on the Reserve, and accept battle in a favourable position, already selected, in front of Mannheim. Here it could be reinforced by a portion of the Third Army from Landau; whilst the First Army operated against the enemy's flank and rear. Should it, on the other hand, advance into Lorraine, the First Army secured its right, whilst the Third would hold fast, or, if strong enough, attack any force that might have assembled at Strasburg on its left.

If the French assembled in great force at Strasburg, the Third Army was to concentrate on the right bank of the Rhine instead of on the line Landau-Rastatt. Here it could be rapidly reinforced by the Reserve from Mayence. The weight of such a force on their communications with Strasburg, would compel the French, after they had passed the river, to arrest their march into South Germany, and to

disengage towards the north. At the same time the First and Second Armies would sweep forward into France. Invasion, however, on the part of France, was held improbable. To combine the Metz and Strasburg forces would be a work of time; and it was absolutely certain that long before such a conjunction could be effected the German troops would have seized the initiative, and have begun their advance.

If, lastly, the French, without waiting to mobilize, were to make a sudden irruption from Lorraine before the Germans had time to concentrate; the project showed that 150,000 men at most would be available for such a movement, and that during the march of this force to the Rhine there would be time to assemble a much superior body of troops in order to oppose the passage of the river.

The German position, it will be seen, was comparatively central; and here the whole of the Field Armies were to be massed, not blocking directly every avenue of approach, but so placed as to threaten the flank of each line of advance, thus barring them as effectually as if drawn up across them. And at the same time, if by greater rapidity of mobilization and concentration, they were enabled to begin their forward march before the enemy moved, they were drawn so closely together that his inferior numbers would in all probability be attacked, when met with, by a vastly superior force. "In the Palatinate," wrote Von Moltke, "we stand on an interior line of operation to the two groups of the enemy. We are in a position to act against either of them, or against both simultaneously, provided we are strong enough. This concentration protects the Upper as well as the Lower Rhine, and permits of an offensive operation in the enemy's country, which, if resolved upon in time, will probably anticipate every attempt on the part of the French to set foot on German soil."

The march of the French battalions to the frontier had been hailed with acclamation by the Press, and from its incautious freedom the Germans received early and accurate information of the enemy's movements. Not only was the position of each army corps thus discovered, but their strength was calculated; whilst on the other hand, the French

remained in absolute ignorance of what was passing beyond the frontier.

As already stated, the possibility of that portion of Napoleon's force which had thus rapidly assembled at Metz, suddenly crossing the frontier, without waiting to mobilize, and invading the Palatinate, had been foreseen. Had such an irruption been made, the Army Corps of the German First and Second Armies might have been caught, had the first dispositions been adhered to, in the act of concentrating on their respective lines; and attacked in the act of converging from widely separated points upon the rendezvous, have been defeated piece-meal. In accordance, therefore, with the advice laid down in the project of '67-'68, the Second Army, on the news of the advance of the French battalions to the frontier, was at once ordered to assemble at Mayence and Mannheim on the Rhine, instead of on the line of Volklingen-Zweibrücken, which was only five-and-twenty miles within the frontier; whilst the garrisons of the towns upon the Saar, 11,000 strong, were directed to prevent reconnoitring parties crossing this frontier stream, and if compelled to fall back before superior forces, to remove the rolling stock, and to temporarily destroy the railways. No other change was made. It was thought better to surrender the Palatinate without a struggle, than to forego by a forward movement of partially equipped and hastily assembled troops, the advantage of meeting the enemy with the combined force of a superior army, well prepared and at full strength.

On the 28th, Napoleon joined his Guard at Metz. Seven days had now elapsed since his troops had assembled on the border, and it was evident that he was awaiting the completion of the work of mobilization ere he moved.

On the 29th he proceeded to St. Avold, 16 miles from the Saar, and met his generals in council. To them he unfolded his designs. He had already abandoned his project of crossing the Rhine at Maxau. There was now no hope of binding the South Germans to neutrality; their armies had assembled, and the voice of their people was strong for war. More than all, the cloud, which had hitherto veiled the Prussian movements, had lifted for a moment, and a

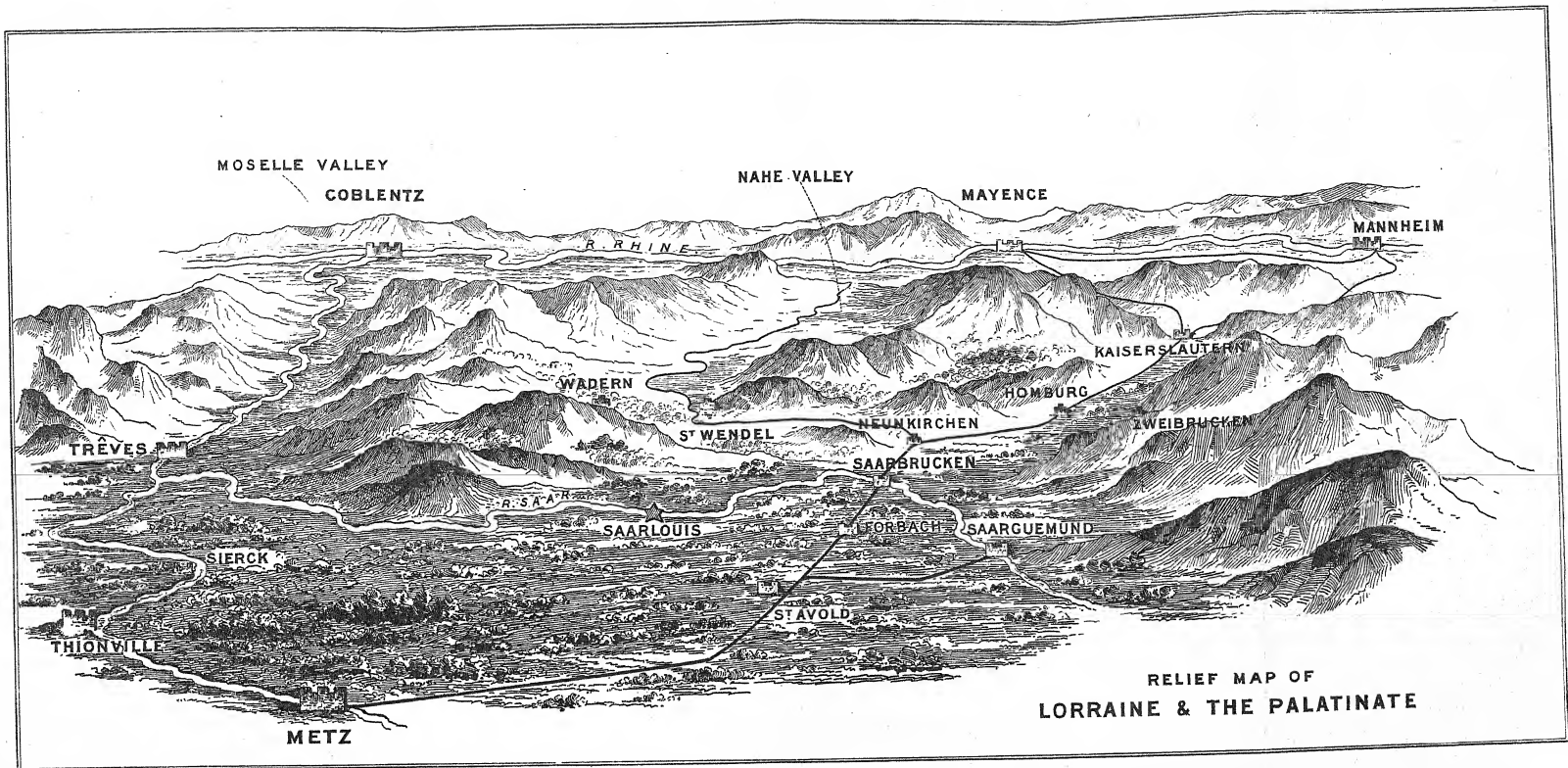
rumour that the enemy was gathering in strength at Mannheim and at Trêves exercised an irresistible force upon the strategy of the French. An advance from Lorraine to Maxau or to Strasburg would have exposed a flank to attack from Trêves and Mannheim and have laid open the road to Paris. To that road Napoleon was now bound. But he, nevertheless, still held to his offensive purpose; but without making any attempt to combine the Armies of Alsace and Lorraine. They remained 60 miles distant from each other, on either side the Vosges Mountains. Nothing was done to shorten the gap between them, and opposite that gap, so placed that a forward movement would sever the communication between the two, was gathering a mass of nearly 400,000 foes. Napoleon's new plan was as follows:—under the command of Marshal Bazaine, three Corps d'Armée, the 2nd, 3rd, and 5th, were to cross the Saar, the river which formed the natural boundary between Lorraine and Palatinate, at Saarbrücken; whilst the 4th Corps, making a show of advancing against Saarlouis, an insignificant fortress, was to cover their left flank. At the same time, Mc Mahon was to move forward from his position near Strasburg, covering the right.

The river Saar was held by the Prussians merely as a line of observation. The force cantoned along its banks was but a slender one, maintained with the object of gaining information, of giving timely warning of invasion, and of breaking up the roads and railroads in case of retreat, whilst the main body gathered on the Rhine, 60 to 80 miles in the rear.

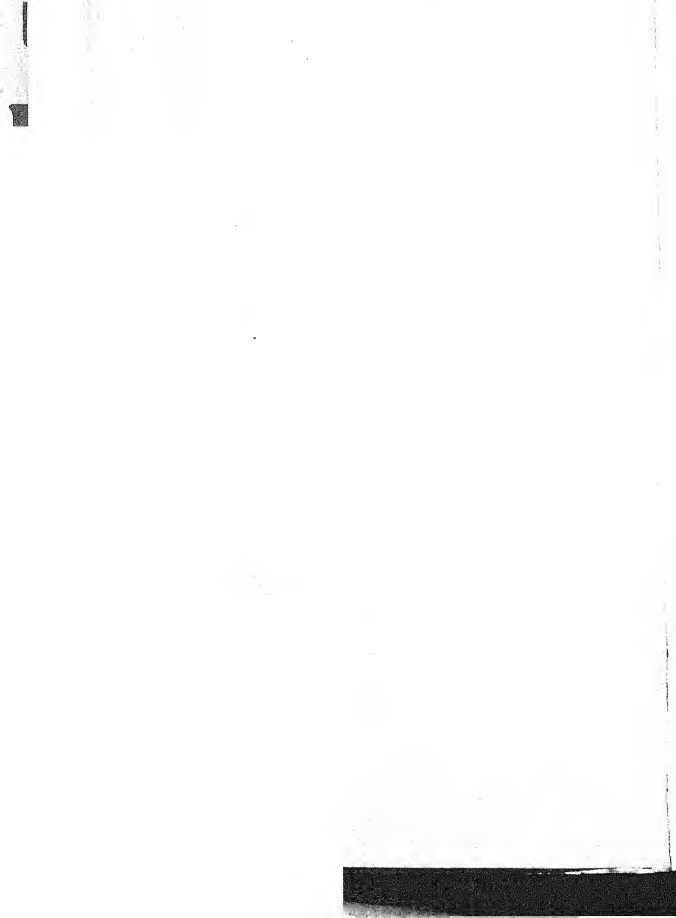
The Saar itself is an inconsiderable stream, and there were many points of passage.

The valley of the river above and below Saarbrücken is screened on either side by rolling and well-timbered hills. In both the French and the German border provinces are numerous roads; and the main line of communication between Paris and Berlin crossed the river at Saarbrücken, and connected by a line of rail and a splendid highway the towns of Mannheim on the Rhine and Metz on the Moselle.

9 battalions and 8 squadrons, drawn from both the First and Second Armies, a force of not more than 11,000



RELIEF MAP OF
LORRAINE & THE PALATINATE



men, watched the Saar from Trèves to Bliescastel, a distance of 60 miles. Beyond Bliescastel the duty was taken up by regiments belonging to the Third Army. About 1,200 cavalry were available for the surveillance of this extensive line, but boldly crossing the frontier and penetrating far into French territory with numerous small patrols, this insignificant force gained valuable information as to the positions of the hostile divisions and proof of their unreadiness for immediate action. The French, on the other hand, had after July 24th no less than 19 regiments, or 76 squadrons, available for the like duties :—

At Forbach	2	regiments	} 19
„ Bening	2	„	
„ Rohrbach	1	„	
„ Saarguemund	3	„	
„ Thionville	4	„	
„ Boulay	7	„	

The reconnaissances effected, however, by this imposing array of horsemen, although numerous enough, were carried out without energy or enterprise. They were undertaken, as a rule, in conjunction with infantry and artillery, and the combined detachments were unable either to move rapidly or to conceal their approach. The same villages were visited at the same hours, and by the same roads ; and the enemy's patrols, made aware by the country people of the time and route at and by which the French were to be expected, easily avoided them. No attempts were made by small parties to pierce the hostile lines. Nor was this powerful force of 8,000 men able to prevent the approach, at all hours and at every point, of the Prussian scouts. At the French Head-Quarters, therefore, the most absolute ignorance prevailed as to the points of concentration and the whereabouts of the Prussian Army Corps. No single item of intelligence was permitted to filter through the line of the outposts on the Saar. The German Press maintained a discreet silence as to military movements, and Napoleon's staff had to rely for their information on the columns of the English newspapers, or the reports of double-dealing spies. The leaders of the French Corps d'Armée, along the frontier, who had each of them four regiments of cavalry at least

attached to their command, appeared to have been fettered in their employment by instructions from Head-Quarters. Thus, General Frossard, commanding 2nd Corps, the advanced guard of the Metz force, was ordered by Marshal Bazaine, in temporary charge of the left wing, to reconnoitre from St. Avold, but only as far as the frontier, and without compromising any important detachment.

Such instructions were certainly misleading. No hard and fast limit should have been drawn, the frontier was but an artificial barrier, and it should have enjoined instead, that the touch with the enemy should be obtained and kept at all costs. Accurate information would at this juncture have been well worth the loss of even a brigade of cavalry. At the same time an injunction not to compromise strong detachments need not have been construed to include small patrols. Yet it was so read by Frossard, who ordered his troopers to avoid engagements even with hostile scouts, and by this measure carefully avoided a sure means of gaining intelligence by the capture of prisoners; and, also, by offering no obstacle to their progress, opened a path into the centre of the French lines to the enemy's patrols. It is sufficiently apparent that from the Chief of the Staff downwards, Napoleon's officers were ignorant that to act as the eyes and ears of the army, to screen it from observation, to secure it from surprise, and to discover the dispositions of the enemy, is the first duty of cavalry. It is a grave reflection on the capacity of the corps commanders, that on the 26th July, five days after the concentration had been completed, Marshal Le Boeuf had occasion to issue the following instructions: "Let your cavalry be seen. It must reconnoitre the whole of the Saar, and must not fear even to cross the frontier." It is extraordinary enough that in any army which relied so much upon the traditions of the great Napoleon and his marshals, these instructions should not have been anticipated, and it is still more extraordinary that when issued they should never have been executed.

The truth is that, in the first place, the generals were ignorant of the science of war. They knew the names of the great French victories, but they had not studied how they

were won. And in the second place, the cavalry were ill-trained. The business of reconnaissance, of covering the front, so efficiently performed in the wars of Napoleon, was a lost art in France. Maps too were wanting of the Franco-German border. Had they been provided, moreover, neither officers nor men had been taught to read them; and without systematic instruction in this art, cavalry, in a strange country, is practically useless. Again, as regards the men and horses in the ranks, the French mounted troops were at a disadvantage. 156 reserve men and a number of horses were required at the outbreak of war to complete the establishment of each regiment. In Germany, on the other hand, where it had been generally recognised that to re-instruct the reserves, and to train fresh horses, several weeks were necessary, the peace strength of the regiments was greater than that for war, five squadrons against four. The fifth squadron, on the order to mobilize, was left behind as a *depôt* for the regiment. It was formed by the recruits, the young horses, and the reserves. Thus, only trained soldiers and seasoned horses took the field. "Previous to 1866," says Von Borbstaedt, "the cavalry was "completed with horses purchased in the country, but the "experience of that year's campaign proved but too plainly "how difficult it is to inure such 'country' horses, even when "most carefully selected, to the work demanded for cavalry "in the field, and to accustom them to the change of food."

It is at least doubtful, had the ranks of the German squadrons in 1870 been partially filled with reserve men and requisitioned horses, whether they would have been able to carry out so thoroughly their exacting duties.

But, notwithstanding the uselessness of their cavalry, the French authorities were not without intelligence, inaccurate as it was, of the German movements and dispositions. They knew that the Saar was weakly held. It was reported that the VIII German Army Corps, 40,000 strong, was near St. Wendel; and as already stated, information was to hand that large masses of troops were gathered near Mannheim and at Landau. But either of these localities was 20 miles further from St. Wendel than was St. Avold, the centre of the French line, and an opportunity, therefore,

of engaging with superior numbers on German soil an isolated portion of the Prussian army appeared to present itself.

This information, however, on which Napoleon based his plan, was misleading. On the 29th July, the day on which he held his council of war, the VIII German Army Corps was still north of the Moselle; nor, within a radius of 50 miles from Saarbrücken, did there stand a single complete division of German troops. In fact, Von Moltke had taken every precaution not to expose any isolated portion of his armies to collision. On the 29th, as if in anticipation of Napoleon's resolve, a telegram from the Royal Head-Quarters was received by General Von Steinmetz, commanding the First Army, to which the VIII Army Corps belonged, instructing him not to advance beyond the line Wadern-Saarburg—a hilly country, well adapted for defence, and 46 miles distant from St. Avold.

Napoleon's scheme of attack, however, was destined never to be tried; and not from more accurate information, but from his own lieutenants, came its death blow.

Those whom he had called to council at St. Avold declared that the army was as yet incapable of offensive movement. The regiments were much under strength; and even had the ranks been full, the equipment and supplies necessary were in every case deficient. In fact, the army was not yet mobilized.

To quote the German Staff History: "There was a dense accumulation of men at the different dépôts (scattered over the whole of France), but no means of causing a speedy outflow of them. The railways, although taxed to the utmost, could neither transport the reserves to the dépôts nor thence to the troops. Mistakes in forwarding reinforcements to regiments on the march (as were the French regiments, generally speaking, from July 16th to 29th) were unavoidable; a great number of reserves were disembarked at places where no one knew the temporary position of their regiments. In certain districts where the lines were blocked, the further transport of the reserves was stopped . . . and in the confusion and haste with which everything had to be pushed on, they joined their

"regiments, as might be expected, deficient of the necessary equipment. Many of them were without cooking utensils, water-bottles, or *tentes d'abri*."

The regimental and divisional transport were also incomplete. Horses, ambulances, vehicles, sick-bearers, veterinary surgeons, and commissariat officials, were not forthcoming. A considerable part of the artillery harness was found to be useless. Some of the ammunition columns had not yet been organized, others were incompletely equipped; and, lastly, although large consignments of maps had been forwarded to the troops, they comprised only German territory; there were none whatever of the districts where the Corps d'Armée were cantoned.

Lastly, Napoleon had expected, on his arrival at the front, to find 150,000 men with the eagles in Lorraine, in Alsace 100,000. The highest estimate of the numbers present at the end of July admits but 129,000 in Lorraine, and 57,000 in Alsace.

In the face of this evidence it is impossible to assert that the opposition of the French leaders to an immediate offensive was unfounded, or that Napoleon was unwise in yielding to their protests.

But, whilst surrendering, or rather postponing his project, he took no precautions to secure his forces from attack. After the council of war had broken up, Marshal Le Boeuf wrote to Mc Mahon, commanding in Alsace, to the effect that no forward movement would take place for eight days. Now, during this interval, it was quite possible that the enemy might seize the initiative, and that the French might find themselves suddenly assailed by superior numbers. The dearth of information, and the impossibility of procuring it, laid them open to surprise. Measures should have been taken, as Von Moltke had done, to occupy positions strong for defence. Moreover, vigorous attempts should have been made to break through the thin line of the German outposts on the Saar, and to gain, at all costs, accurate intelligence of the designs and whereabouts of the hostile masses. As it was, the inactivity of the cavalry still continued; the scattered positions of the divisions rendered them liable to be overwhelmed in detail; and from

the end of July to the 6th of August the French army presented the extraordinary spectacle of the weaker army disseminated from Thionville to Belfort, a distance of 220 miles as the crow flies, without reliable information of the dispositions of an army more than double its strength, and which was already concentrated on a line, from end to end, from Wadern to Rastadt, not more than 100 miles in length, and but seven days' march at farthest from the French cantonments. Students of military history will recall the several instances where the great Napoleon, well instructed as to his adversary's dispositions, won the first move of the game by concentrating his whole available force against a scattered and extended line; notably in Italy in 1796, upon the Maine in 1806, and upon the Sambre in 1815.

The German movements up to the end of July need not detain us long. The army was mobilized; that is, each unit, from the squadrons up to the pioneer company, had been made up to its full strength and had received its equipment for war, by the 23rd of July. On the following day began the transport of troops to the rendezvous assigned to the three Field Armies; and, by the 1st of August, the various corps of the First and Second Armies stood as follows:—

FIRST ARMY.

VII Corps.	Trèves.
VIII Corps.	Wadern.
3rd Cavalry Division.	Still concentrating.

SECOND ARMY

(Now reinforced by the Reserve.)

III Corps.	} On line Alsenz-Grunstadt.
IV Corps.	
IX Corps.	

X Corps.	Bingen	} Still concentrating.
Guard.	West of Mannheim	

(Saxon)	} West of Mayence.
XII Corps.	

5th Cavalry Division	} On line Martinstein-Durkheim.
6th Cavalry Division	

THIRD ARMY.

5 Army Corps, and 1 Cavalry Division, on left bank of the Rhine.

IN PRUSSIA.

I Corps. (Coming up to reinforce First Army.)

II Corps.

VI Corps.

1st Cavalry Division. (Coming up to reinforce First Army.)

2nd Cavalry Division.

25th Cavalry Brigade.

17th Infantry Division.

The whole of these troops were completely equipped, although some of the regiments and batteries and a portion of the supply train had not yet reached the rendezvous. It will be well to pause a moment, and to ask how it was that the Germans, 16 days after the declaration of war, were able to achieve this great result with 12 Army Corps, whilst their adversary with but 8 was still in such a deplorable state of unreadiness. The answer to this question involves a sketch of the systems of mobilization and concentration which obtained in either country. Territorial organization was the fundamental principle of the German system. To each Army Corps a Province was permanently assigned, to each division of the Army Corps a district of the Province, to

each brigade of the division a large town or group of villages in that district. There the regiments had their quarters; thence they drew their recruits; there the men settled when discharged to the reserve, returning in most cases to their own homes.

To clothe and equip the reserves when called upon for service, a full supply of all necessities was kept in the regimental stores. Each division possessed its own Commissariat Staff, with a full complement of waggons, at its own Head-Quarters; and each corps and battalion its own ammunition carts, baggage waggons and ambulances. And, as each unit was kept intact and complete (except in strength) during peace, each Army Corps, division, and brigade, had, generally speaking, its own staff officers, already intimately acquainted with the troops they would lead in war.

The arrangements for calling out the reserves, and forwarding them to their regiments, were committed to certain officials in each district. Thus each Army Corps had in its own territory every requisite for mobilization. Every single article necessary to complete equipment was at hand. Every single officer and soldier, every civilian official and reserve man, knew exactly what he had to do when the order to mobilize was published. "The Prussian system of mobilization, which has been gradually extended to the whole North German and finally South German Armies, so completely answers every demand that can be made on it, that it only requires a simple order to mobilize, with the specification of the date on which the first day's work has to commence, to set in perfectly harmonious movement the colossal machinery, without rendering it necessary to lose time in asking one single question from below or to issue a further instruction from above."

The order for the mobilization of the field forces was issued on the night of the 15th July; on the 19th the transport of the reserves to their regiments commenced; and by the 23rd the regiments were at full strength both in men and matériel, and perfectly ready to enter on a protracted campaign.

Chiefly from political reasons the territorial system had not been established in France; nor had the regimental system been so far developed as to give each battalion the means of fitting itself speedily for the field. The depôts did not contain all the necessary equipment; and many of the regiments were serving at a distance from their depôts. Nor were the Corps d'Armée—the few that were already organized—independent agents. All administration was centralized at Paris. The matériel of the whole army, with the exception of the greater part of the soldiers' kits, was retained at a few places in time of peace. The transport waggons were accumulated at Vernon, Paris, Satory, and Châlons; the camp equipment at Paris and Versailles. On the order to mobilize, long and minute instructions had to be drawn up in Paris and issued to every officer concerned. For the supply of the most trifling article of equipment a ministerial order was necessary. The branches of the administration were overwhelmed with demands, with questions, with complaints. Rapid distribution to the regiments from their depôts or from the great central arsenals proved a work of extraordinary difficulty; and the arrangements for causing the assembly of the reserves were but imperfect. As the regiments were not territorial, that is, raised and serving each in its own district, but migratory, the men were recruited from all parts of France, and on discharge to the reserve dispersed to every quarter of the Empire. In very many cases the men had to be conveyed from their homes to the dépôt to be clothed, and when clothed from the dépôt to the regiment. "In some instances, therefore," says Colonel Von Borbstaedt, "many a soldier had travelled over one half of France before he arrived at his destination." Napoleon himself has recorded how reserve men, living at Strasburg, and whose regiments were already in Alsace, were first sent to their respective depôts, perhaps in the South of France or even in Algeria, to be clothed, and then transferred to Alsace to join the ranks. Moreover, at the outbreak of hostilities, only four Corps d'Armée existed, those of Châlons, Lyons, Paris, and the Guard. Not one of these, however, had its stores under its own charge, or its departmental services already

organized ; and the four others that were created had to be supplied with regiments, batteries, staff-officers, and administrative officials, drawn from every garrison in the Empire, utterly unacquainted with each other, and without the *esprit de corps* which animates every permanent military organization.

The transport of the troops to the theatre of war, involving, if it were to be rapidly completed, as systematic preparation as the mobilization, had been worked out in Germany with the greatest care and the most minute arrangement. Each Army Corps required between 60 and 70 trains for the conveyance of its men and matériel to the rendezvous, and there were 12 lines of railway available. It was found possible to despatch 12 trains by the single lines, 18 by the double.

On a single line, therefore, an Army Corps could be forwarded in $5\frac{1}{2}$ days, on a double line in $3\frac{1}{2}$. Estimating the speed of the trains at 15 miles an hour, including stoppages, the distance traversed would be 360 miles in 24 hours.

The railway lines, however, had not been constructed with a strategical purpose, that is, with a view to the concentration of troops at certain specified localities ; each line therefore had not the same amount of transport demanded from it. For instance, while each of the two Bavarian Army Corps had a line of railway to itself, the six corps of the Second Army had four lines between them ; in the latter case, therefore, the same line was in some instances used by two and even three Army Corps.

The work of transport could not consequently be completed until the tenth day, the 2nd of August, when 380,000 men, fully equipped for war, were concentrated on or near the Rhine. Forethought, system and experience alone enabled this stupendous operation to be so successfully carried out. Immediately the transport of the troops began all other traffic was stopped. The requisite platforms and sidings had been already provided. The soldiers had been practised in embarking and disembarking, and in packing waggons with speed and order. A special section of the general staff was charged in peace with the task of formu-

lating schemes for the despatch of the troops to any possible theatre of war. The exact locality of concentration, had, as in Von Moltke's project, already been pointed out. To each regiment had been issued a time-table giving the hour and place of departure and arrival, and the size and number of the trains told off for its conveyance. There remained but to notify the day on which the movement would commence.

In France, on the other hand, no such system existed; hence the extraordinary confusion and mistakes which have already been recounted. "The error," says the German Staff History, "was committed in assuming that the concentration of the army by rail could be effected with order and precision without a very thorough and comprehensive preparation. Moreover, in the absence of any sound and previously worked-out plan for the conveyance of stores to the troops and to the fortresses near the frontier, and to the lack of military supervision along the lines, the transport of supplies and matériel were thrown completely out of gear." "At Metz," says Home, "nearly 7,000 railway carriages were blocked together in a solid mass; none of the people at this spot knew what the waggons contained; ammunition, food, clothes, arms, entrenching tools, pontoons, and hospital arrangements, being mixed together in a confused mass. The railways immediately in rear of the army were blocked and useless, and the waggons, containing the things that were really needed, could not be got at."

"The Emperor," says the pamphlet attributed to Napoleon himself, "had flattered himself that he had it in his power to anticipate the Germans in mobilization and concentration; but he erred, as did all the world, in cherishing the illusion that by means of the railways the concentration of so many men, of horses, and matériel could be carried out with the necessary order and precision, without the work having been regulated a very long time in advance by a vigilant administration."

CHAPTER II.

THE CHARACTERISTICS OF THE ARMIES.

Since the Crimean expedition in 1854-55, there had been three European wars.

In 1859, France, allied with Piedmont, had attacked Austria in Lombardy, and by the victories of Magenta and Solferino had confirmed the prestige she had won on the shores of the Black Sea.

In 1864, Denmark, after a brief struggle, had yielded her southern provinces to the combined forces of Austria and Prussia. Over their prize the allies quarrelled, and two years later, on the field of Sadowa, Austria was decisively defeated.

Minor enterprises, in Africa, China, Mexico, and Italy, had meanwhile employed the arms of France. In these, as in her conflicts with more powerful foes, she had been uniformly successful; and in the eyes of the world, notwithstanding the startling triumph of Prussia in Bohemia, she was still the first of military nations. Yet the downfall of Austria had been more complete in '66 than '59. Sadowa was a more brilliant victory than Solferino. These facts were not disputed; but the disparity of armament (for the breech-loading needle-gun had proved a weapon far more effective than the Austrian muzzle-loader) was held accountable. The fact that thorough training, skilful strategy, sound tactics, and superior organization, had played as important a part, was, if suspected, disregarded.

France, especially, affected to think lightly of the Prussian success. Nevertheless, always jealous of warlike renown, from the very morrow of Sadowa, she had made up her mind that Prussia must be humbled. Her pride could brook no rival. And, on her side, Prussia, since the

defeat of Austria, had plainly manifested that she no longer acknowledged France as arbiter of the destinies of Europe.

The conflict, therefore, was inevitable, and had been long foreseen by both. But whilst the one bent all her energies to the task of preparation, the other was idle, looking only to the laurels which crowned her eagles. The army that bore blazoned on its colours the long roll of Napoleon's victories, had little to fear from a single German State. Never since the days of Rossbach had Prussia, single-handed, been a match for France. But was her rival, the old Prussia, the Prussia of Ligny, Jena, and Auerstadt? In her blind self-confidence she never troubled to inquire. In absolute ignorance of her system of short service and large reserves, of her high standard of practical training for war, the French nation believed that the national force of Prussia was but a Landwehr or Militia, led by pedantic and inexperienced officers. Against the veterans of France, more familiar with the hardships of the campaign than the routine of home service, and armed with the deadliest of modern weapons, it was proudly assumed that the valour of these half-trained levies would avail but little. To increase the numbers, therefore, or to improve the efficiency, of the army, but little was done. Reform was thought unnecessary; and the training, organization, and tactics of 1859, were held to be adapted to the era of universal breech-loaders, of enormous reserves, and of rapid mobilization, which had dawned since Solferino.

Yet there were those who doubted. Napoleon himself and more than one of his marshals were alive to the fact that great changes were taking place in the art of war, that Prussia had become a most formidable rival, and that France was weaker than of yore. A pamphlet which declared in 1868, that the soldiers were no longer the men of the Crimea and Italy, that discipline had deteriorated, that the military establishment was far too small and the tactics antiquated, bore the signature of one of the ablest French Generals. For an hour France was stirred. But the Emperor dared not acknowledge the truth of the criticism. The nation was soothed by judicious flattery; and the man who had fearlessly published the unwelcome truth saw parasites

and time-servers preferred before him. Never was warning more prophetic or more unheeded. Yet it is scarcely just to blame the nation or the army. The nation was subservient to the Sovereign ; the army was commanded by his creatures. The Imperial Court and the existence of the Imperial party in the state, exercised an evil influence upon the troops. The personal adherents of the Emperor, and not the ablest soldiers, monopolized the higher commands. Pre-occupied in intriguing for further favours, these courtier generals had neither time nor inclination to exchange the luxurious life of the Imperial circle for the study and the camp. Following the example of their superiors, many of the staff and regimental officers were idle to a degree, indifferent to all save their personal interests, and luxurious even to effeminacy.

But an army is dependent for its morale and efficiency on the impulse it receives from above ; it is an accurate reflex of the character of its chiefs. Such was the case in France. Vanity, thoughtlessness, and indolence reigned in high places. The men who should have corrected error, themselves created it ; and the army was rotten to the core. And yet, to all outward appearance, it was a magnificent force. The soldiers were well drilled, and the parade manoeuvres of all arms had lost none of their elasticity. The Guard was the most imposing corps in Europe. Foreign critics were loud in their praises of the artillery, and allowed that the infantry were the most agile and intelligent of skirmishers ; whilst the English Government, about to re-organize its commissariat service, had taken for its model the French Intendance.

To those who, so long as the regiments could defile in even lines upon the Champs de Mars, and execute the attack of imaginary enemies upon the plains of Chalons without confusion or irregularity, believed that the troops were well trained for war, all this was satisfactory enough. But to those who held that something more was necessary than showy exercises and a knowledge of drill, the system of instruction seemed absurd. War was not taught at all, and veterans of the Crimea and Italy said openly that the

day France took the field all that had been learned in peace would have to be forgotten.

Practical training and musketry were neglected; and other critics than those above mentioned, silent but observant, for to them the moral power of the French Army was a matter of the deepest moment; who looked upon it as a possible foe, and spared no pains to discover its defects, congratulated themselves that, infantry, whose formations were vicious and who could not use their rifles—artillery, who had not been taught to shoot and whose weapons were inferior—cavalry, skilled in all movements of the parade-ground but ignorant of the duties of reconnaissance—an administrative system, efficient enough in peace, but unsuitable for war—lacked, as an army, the most essential elements of strength.

That the French soldier possesses a quick intelligence and a special aptitude for his calling, not even the most prejudiced of his detractors can deny. But he must have leaders who can use his warlike qualities, and in 1870 these were wanting. The majority of the officers did not study, and no pains were taken to instruct them. That something more is demanded than exact drill and high courage to make war successfully, they did not understand. "The war of 1866,"—it is one of themselves speaking,— "had taught them nothing. The Minister of War had published 'a resumé of that campaign. Those whose curiosity induced them to read it saw nothing but what was pitiable in the Prussian tactics. Their strategy, they said, 'was vicious, and it was only to be hoped that if it came to war, the same tactics and strategy would be employed as in '1866.'"

Moreover, a breach had opened between officers and men. It had been visible in 1859. At Magenta and Solferino the cry had been heard, "*Les épaulettes en avant.*" It was never the habit of French officers to interfere with their men in camp or in quarters. The privates were dependent for their comfort and well-being on the sergeants and corporals. With their food, clothing, and instruction, the officers were not required to concern themselves, under the second Empire less than ever; and save in the Guard and Algerian

regiments alone, the commissioned ranks had but little knowledge of, or sympathy with the privates, the privates little respect or affection for their officers.

Nor had the frequent political changes of the century, the instability of successive rulers, and the discontent of a large portion of the nation with the existing régime, failed to produce a baneful effect on the temper of the troops. Where the Government was not respected, where it was the universal habit to criticize and to condemn, not only the actions, but the very right to exist, of every authority, military discipline could not well escape untainted. It had perceptibly weakened since 1854. The irregular life of Algerian cantonnements had also tended to relax its bonds. Brave and intelligent as they were, the French soldiers of 1870 lacked that habit of unquestioning obedience which alone gives valour and skill their due reward.

Yet the army was not without its characteristics of strength. The thirst for glory, the pride in tradition, the confidence in the invincibility of France, gave promise that the dash and daring of her officers would be as conspicuous as ever on the battle field. That promise was not belied. Furthermore, the Emperor had not been altogether heedless of the developments of the past few years. Something he had accomplished towards raising the standard of efficiency; but he had to contend with much obstruction. Despite his successful conduct of the '59 campaign, he was but an amateur in war. His opinions weighed little with his ministers, and not greatly with his marshals. Strenuous were his efforts in 1867 to introduce a new artillery armament. But a council of generals (although reports of the accurate practice of the Krupp cannon were laid before them,) declared, without a dissentient voice, that the French field-gun had no superior. In the gigantic reserves of Prussia, moreover, he recognised an element of strength for which France had no equivalent. With the help of Marshal Niel, his most capable adviser, an act was passed for the formation of a national army; but on the death of that minister was tacitly repudiated by the Government, preferring a small budget to a strong line of defence; and although the *cadres* still appeared on the returns of the

military establishment, the gorgeous uniforms of the bourgeois officers were almost the only token of the existence of the Garde Mobile.

Again, Napoleon had followed the progress of the Secession War with interest, and had not altogether missed its lessons.

One of the most prominent of these was the value of temporary breast-works, and since 1867, his soldiers had been instructed in the construction of entrenchments. But, on the whole, his influence as Commander-in-chief was not for good. He was incapable of wielding at one time, like the great founder of his house, the civic sceptre and the marshal's baton. Save in some few instances, he left the care and instruction of his troops to irresponsible subordinates, and in their choice he was unfortunate. And so the French Army, without a leader to correct abuses or to maintain its *moral*, whilst those of other nations were fast improving, lost little by little its former vigour. It would be easy to point out other circumstances which assisted to destroy efficiency ; the want of homogeneity in the corps of officers, one third of whom were taken from the ranks ; the impaired authority of the non-commissioned officers ; the antagonistic spirit which had arisen between the civilian and the soldier ; the contempt with which the profession of arms was regarded by the bourgeois ; the attacks on the very existence of the army by the peace-at-any-price party ; the ridicule of the theatre and the press. But, although these and other evils existed, it was not to them alone that the successive defeats of 1870 were due. The primary cause was that spirit of which Arnold wrote : "If there be, as
 "perhaps there are, some physical and moral qualities enjoyed by some nations in a higher degree than others, yet
 "the superiority is not so great but that a little over-presumption and carelessness on the one side, and a little
 "increased activity on the other, and still more any remarkable genius in the generals or in the government, may
 "easily restore the balance, or even turn it the other way.
 "It is quite a different thing, and very legitimate, to feel
 "that we have such qualities as will save us from ever being
 "despicable enemies, or from being easily defeated by others ;
 "but it is much better that we should not feel so confident,

"as to think that others must always be defeated by us."

In Prussia as in France the Sovereign was Commander-in-chief. In the one case it was an evil, in the other an incalculable benefit. Himself a soldier inferior to few in experience, for his service dated back to 1807 and included the War of Liberation, King William of Prussia had made his army his peculiar care. He had been the soldier first, the statesman afterwards; or rather, he had been true to his conviction that the prosperity of Prussia depended on her physical strength. In his choice of advisers he was more than fortunate. The times indeed were favourable. The universal liability to military service, the social precedence given to the soldier, made the sword the most honourable of professions. The greatest and most ambitious minds were attracted to it, for no other calling offered the same rewards. But, at the same time, it was by no simple turn of fortune that these were found in the councils of the King. No great general, whether his achievements have been conspicuous in the field or in the business of organization, who has been either supreme himself or has been allowed a free hand in the selection of his assistants, has been without capable subordinates and loyal support. And this fact is no fortuitous coincidence, but the sure indication of a mind beyond the common, possessing quick and true perception of character and the power of drawing to itself natures of the same mould as its own.

Little marvel is it therefore, that with great minds to conceive improvements and reforms, and the strong will of the ruler to push them through, the military machine of Prussia was well nigh perfect, and the system of training and organization superior to any that has existed since the days of Rome's ascendancy. Discipline was strict but not severe. In educated men—for universal service brought them in numbers to the ranks—who appreciate its importance, and in those of humbler position who were carefully taught its necessity, habits of subordination were rapidly confirmed. And discipline was hereditary; its traditions were handed down from father to son, in the same manner as the liability to bear arms; its influence was paramount, not in the army alone, but in every branch of the public service,

and in every institution, from the school and the university to the railway and the factory. The nation was on the side of authority, and those who rebelled found no sympathy in their comrades or elsewhere. The belief—conscious or unconscious—was universal that, to hold its place among the nations, Germany must be strong; and a nation of soldiers knew, that without strict discipline military strength does not exist. The system of military training for many years previous to 1870 had been more thorough than that of any other European nation in modern times. War was made familiar. Great manœuvres had been practised since the days of Frederick. Somewhat artificial before 1850, these annual exercises had since become a close representation of war. "When the summer drills are over," wrote General Brackenbury, "the men who have hitherto practised their work in battalions, brigades, and divisions, are assembled in corps, and made to manœuvre against each other exactly as in war, except that their weapons are not loaded. Every department has to perform its own functions, while the talents of individual officers are tested. All things necessary in war are practised. Outpost and intelligence duties, patrols and reconnaissances, billeting and bivouacking."

At the larger manœuvres too, in which every regiment of the army took part at least two years out of three, and which lasted for a month or six weeks, the reserves rejoined the colours, and the battalions took the field on the war-establishment.

Nor was the system either then or now, for it still obtains, limited to the exercises of Army Corps, divisions and brigades. In these the commanders and the staff receive their special training, and the three arms learn to work in conjunction; but, in the neighbourhood of their own quarters, the regimental officers and men are constantly exercised over broken ground, where, as far as possible, situations which might occur in battle are rehearsed; and the yearly programme of each battalion embraces equal periods of drill, musketry and tactics.

So highly is practical knowledge esteemed that the promotion of the officer depends, not on his theoretical

attainments, but on his capacity for conducting operations in the field. And he finds instructors in his immediate superiors. The battalion is the tactical school. From the chief who superintends the whole, down to the sergeant who takes his squad into the fields, and there explains the duties of sentry and patrol, all are incessantly engaged in the work of practically teaching in peace what is requisite in war.

Careful *individual* training is the foundation of the Prussian efficiency. Every officer and man is made intimately acquainted with his duties on active service, for they are thoroughly instructed not in squad, company, or class, but each man by himself, in every detail of their trade. It may be noted, at the same time, that this individual training is not so much enjoined with the view of making the soldier more apt in independent or individual fighting, as of enabling him to do his best in combination with his comrades.

When Prussia took the field in 1866, her troops had less experience of war than those of any other nation. Their knowledge was theoretical; but their rapid and decisive victories proved conclusively, that troops trained as they were, may be the most formidable of enemies, and that the general principles which regulate tactics can be so learned in peace that they will be followed instinctively in war.

Under her system, far more is effected than in inculcating discipline, in moulding skilful strategists and expert fighters. The intelligence, which has not only framed her institutions, but watches to preserve them in their integrity, works assiduously for the formation of individual character. Every rank is given its own responsibilities. The instruction and well-being of the men are committed wholly to their immediate commanders; here every officer, commissioned or non-commissioned, is left to himself; he is compelled to use his intelligence, for his own advancement depends on the efficiency of his men; and *habits of decision and self-reliance are thus confirmed*. Again, little less remarkable than the knowledge of their profession possessed by all, and the smoothness of the mechanism of the military system, is that spirit of confidence in themselves, their training and their leaders, of loyalty to king and country, which pervades every

rank of the Prussian Army. The soldier is treated as an intelligent being, a fit recipient of patriotic ideas and lofty sentiments. He is brought into contact with them from the day he joins the colours, and throughout his service his mental and moral training is considered as important as his physical.

It may be well to notice that practice in battle-exercises by no means occupies the greater portion of the soldier's time. The greatest precision is demanded in close order, and this can only be attained by a long and arduous course of training. How great was the influence in the war of 1870 of this mechanical accuracy and of the habits of subordination and attention thereby engendered, on both discipline and marching, it is difficult to estimate.

It has already been stated that the bonds of union between the French officers and men were but slight. The non-commissioned ranks had been encouraged to usurp the prerogatives of their superiors, and had become responsible for duties which should have been the chief care of the company officers. And not only did the sergeants encroach upon the functions of these officers, but the battalion commander and adjutant absorbed the control of the minutest detail of instruction and administration, depriving the captains of the charge of their men, and of all opportunity of winning their respect and confidence.

The German system is in marked contrast. The higher authorities consistently maintain the high position of the company commander, and crush every attempt to curtail his prerogatives or to lessen his responsibilities. From the first day the recruit falls in upon the barrack square he is under the eye of his captain. The whole of his military knowledge, his rewards and his advancement, he owes to the officers of his own company. For the economical administration of his command, for its comfort and well-being as well as its efficiency, the captain bears the sole responsibility. On the bonds thus created between officers and men may be cited the opinion of a well-known Prussian author:—
 "The captain is the only officer between whom and the
 "soldier a personal relation exists in peace time. He
 "knows every individual soldier in the most intimate man-

ner, and the soldier on his part is well aware that his captain so knows him. It is upon this relation that the uncommon influence rests, which he, above all other officers, has over the individual soldier as well as over the whole company." In the French Army this uncommon influence, the root of the Prussian discipline, was altogether lacking.

In the first place, the system was one of centralization; individual initiative and independent action were discouraged. Within the tactical unit, the battalion, battery, or regiment of cavalry, all responsibility was vested in the hands of the commanding officer and his staff. Subordinates had merely to obey orders and to move in the authorized grooves. The commanding officers were likewise under strict and unceasing supervision, exercising their functions on lines laid down for them; and the supervisors themselves were closely controlled from Paris.

"If the habit be once acquired," wrote Colonel Maurice, so long ago as 1872, "of being never entrusted with authority in even a limited degree, of leaning always on the mere dictation of others, it becomes extremely difficult for any man in later life to shake himself free from it, and either willing to assume responsibility, or—for the two things almost universally run together—to delegate power. Yet for the present conditions of war, a readiness to assume responsibility if necessary, a knowledge when to assume it, and a capacity for giving orders without dictating them, are more needful than all theoretical training, and, if we are to believe those who have seen recent fighting, than all practical experience."

Secondly, the chief business of the army was drill; drill pure and simple. The drill they practised had, it is true, before the introduction of the breech-loader, been the best preparation for battle, for the majority of the manœuvres were those employed before the enemy; but it had not been recognized that this was no longer the case.

Lastly, there was no training for battle whatever.

If they had acquaintance with the history of war the military chiefs had not reflected on it. They had not grasped the fact that the soldiers of Napoleon, of whose

skill and powers they believed themselves the heirs, possessed something more than drill, discipline, and a warlike activity of thought; that they did not spring into being the expert warriors they were, but that a long probation and much experience developed their extraordinary efficiency.

To supply the place of that probation and experience nothing was done. It was held that the training of a barrack-square was sufficient to make her officers skilled leaders; that there was no necessity to supplement it by instruction in the art of war; and that the capacity for independent action should be rather repressed than fostered. It was traditional in the army that, in the field, individual intelligence must have free play and parade-ground manœuvres be discarded. Against over-drilled soldiers like the Russians and Austrians their loose and independent methods of fighting had been successful. These methods, however, the military chiefs expected would be improvised. The soldiers knew enough of war to understand that confusion was inevitable. But their leaders had neither accustomed them to confusion, nor set themselves to evolve order out of disorder. And so, in 1870, the French met troops better trained for fighting than themselves, to whom the confusion of battle was no novelty, who had been practically taught how to make the best of it, and whose manœuvres were even more rapid than their own.

We have now to give some attention to each arm of the service, and to remark the various circumstances which affected their action in the field.

THE INFANTRY.

In the Prussian army much care was given to musketry training; great stress was laid upon the value of individual instruction, of accurate shooting at short range, and of economy of ammunition. Each infantry soldier fired nearly 130 rounds a year. The French, on the other hand, underrated the effect of a high average, and expected great results, which were never realized except against close and deep formations, from the long range fire of masses of men.

The "small book" of a French soldier, picked up at Woerth, showed that, in 1866, he had expended 14, in 1867, 20 rounds, and in both years had ranked as a "first class shot." In 1868 and 1869, he was quartered in Algeria, and during that period never fired at all. The German infantry was still armed with the famous needle-gun; the French with the Chassepôt; and of these the latter was in every way superior. The material and workmanship of the barrel were more satisfactory, the trajectory was flatter, the weight less, and the action of loading performed with greater rapidity and ease. Eleven shots could be delivered in a minute. It was sighted for 1,200 metres, the needle gun for only 600. Assiduous practice and a less cumbrous equipment rendered the Prussian soldiers stouter marchers than the French. In the field King William's troops were content to bivouac or to occupy the villages. The French soldier was weighed down by a heavy cooking apparatus, an enormous kit, and a portion of the *tente d'abri*, of which the burden and the shelter was shared by four men. Campaigning under the powerful sun of Africa, Mexico, and China, had made the soldiers less hardy than those of the Republic and the First Napoleon. A roof had come to be considered an absolute necessity, even in a temperate climate and mild weather, and because it was dangerous in Algeria, where villages are far between, to sleep *à la belle étoile*, the men of the Army of the Rhine were encumbered, in the midst of summer and in a thickly populated country, with the useless addition of their canvas shelters.

The French infantry regiment consisted of three battalions; the battalion, on the war strength, of 6 companies of 130 men. One or more companies skirmishing, the remainder deployed in line, or massed in column, was the ordinary formation for attack. The skirmishers merely covered the advance of the main-body; and it was the main body with the bayonet that was expected to carry the position.

The battalion was the tactical unit, the smallest body to which independence of action was allowed; and the companies executed all movements at the command of the battalion leader.

The Prussian infantry regiment also consisted of 3 battalions; the battalion, on the war strength, of 4 companies of 250 men.

The company was divided into 3 sections, or *züge*, of 80 rifles each. When in line it was formed into two divisions, standing side by side, of 3 ranks each. When in column it was formed of 3 sections, one behind the other, at a distance of 6 paces. The rear section was called the skirmishers, or marksmen's section, and composed of the best shots. In line, this section formed the third rank.

The company column, therefore, presented six ranks to the enemy on a front of one section; and when the skirmishers were out, four ranks and the same front.

In the attack, the battalion advanced either in line of company columns at deploying intervals (80 paces), each company furnishing its own support and reserve, assigning a section to each; or, with two company columns in front, furnishing the skirmishers and supports; the remainder following as a half-battalion, generally in line of company columns, in reserve. The company was the tactical unit and therefore semi-independent. Between the major commanding the battalion and his four captains there was no intermediate grade. As in quarters, so in the field, the latter were allowed considerable latitude. They were mounted on parade. In the attack, the major gave general directions, pointed out the objective, leaving it to his captains to carry them out as they judged best.

The official instructions for attack, which were in force in 1870, have been condensed as follows. (It will be observed that the conditions of the new fighting were so accurately forecast, that the principles then put forward are those which regulate the tactics of the present):—

“ Dwelling on the power imparted to the defence by the breech-loader, they asserted that a good, steady infantry was hardly to be assaulted in front, unless at the same time attacked in flank. But still the offensive was brought into the foreground, and the principal task of tactics was represented to be that of carrying out the infantry attack successfully; if not at the first rush, yet by perseverance, a clever use of the ground and of the situation.

"It was recommended, then, as a general rule, to direct your movements against the enemy's flanks, or if that were not possible, at least to threaten them. The battle should, it was said, be opened by dense clouds of skirmishers, who, advancing at a run, should get as near the enemy as possible before they opened fire.

"Supports were directed to place themselves as close as possible behind the line of skirmishers. Then little by little, the latter would push forward firing, close up to the enemy, when, after a hot fusilade, the reserves combined with the first, or first line alone, according to circumstances, would be led forward to the assault."

The offensive was the mainspring of the Prussian tactics. In the invasion of France it was imposed upon them by the fact that they were assailants and superior in numbers. It had been strongly advocated, as the surest means of defeating the French, in a remarkable pamphlet by Prince Frederick Charles; and their chiefs adopted it without hesitation, for they could trust their officers to let no opportunity escape them. If a weak point existed in the line of defence—and such points exist in every line of defence—it would be rapidly discovered where all were resolute in seeking it. "The assailant triumphs," writes Von der Goltz, "if he gains the upper hand at a single spot: the defender only when he is victorious all along the line." The French held the contrary opinion, and believed the best means to utilise the breech-loader was to remain on the defensive until the moment should be ripe for a general counter stroke upon the shattered enemy. The policy of this course was urged in the official instructions, and had been impressed upon the minds of officers and men.

Unfortunately, this idea was not at all in consonance with the national characteristics and traditions. That the French fight well on the defensive, the stubborn battles of the last phase of the Peninsular War, as well as those of 1870, sufficiently prove, but their greatest victories have been won by the impetuosity of their attack. "A constant offensive," said Marshal Bugeaud, "is vital to the efficiency of the French soldier." If the defence is to be decisively successful, it must be combined with attack, it must be active not

passive. Such was doubtless the intention of the authorities, but so enamoured were they of the prospect of crushing the assailants with the fire of the Chassepôt, that they left in the background the importance of the counter stroke, and appear to have taken for granted that it would be easily improvised. But the sudden change from the defensive to the offensive,—that is, to a general offensive, which wrests the initiative from the enemy, compels him to suspend his attack, and transposes the rôle of the combatants—is the most difficult of tactical operations. Throughout the whole range of military history examples are rare. Except by the greatest captains it has never been successfully executed ; and in not one single engagement, even when they were superior in numbers, was it successfully executed by the French commanders of 1870.

It may be well to remember that amongst English-speaking generals there are two who are regarded as the greatest exponents of defensive tactics, Wellington and Lee. And yet, when they waited to receive attack, how seldom were they able to crush a repulsed enemy by a general counter-stroke. Salamanca and Waterloo are the only instances ; these alone were decisive victories, and, in the latter case, after the arrival of the Prussians, numbers were all against the assailant. It is true that at Vimiero, Sir Arthur Wellesley was only prevented by untoward circumstances from pursuing Junot into Lisbon, but in every other defensive action, fought either by Wellington or Lee, with the exceptions above noted, the enemy was allowed to withdraw unmolested.

Instructions which gave prominence to the defensive, exalting it at the expense of the attack, had a prejudicial effect. The predilection for the defensive influenced disastrously the tactics of the whole campaign. The generals, waiting until the enemy should be shattered by the Chassepôt, let false manœuvres, made sometimes at the very outset of the battle, pass unpunished, and before the wished-for consummation arrived, their flanks were turned and the battle lost. The truth is that no general, before entering upon a campaign, can decide upon the method of his battles. If he wishes for victory, at one time he must act on the defensive, at another he must attack. Even to defend a

country from invasion the commander of an inferior force must be prepared to strike. The strategical defensive is, no doubt, generally, although not invariably, compulsory on the weaker of two belligerents; but no leader dare neglect opportunities for assuming the offensive; for, as an almost universal rule, it is by the offensive alone that decisive results are won.

More attention had been given in France than in Prussia to the construction of field-entrenchments. The utility of such works, under certain circumstances, was not disputed by the German leaders, but they were held to be out of place in offensive battle, as tending to check the *élan* of the troops. And yet, whenever a post was carried, such as a farm or village, it was the constant practice of the Prussians to put it at once into a state of defence and hold it as a rallying point.

The French infantry carried 90 rounds per man, the Prussian 80, and in both armies the reserve ammunition was conveyed in battalion carts.

Field manoeuvres were not unknown in France. Her Republican armies at the close of the last century imitated and improved upon the exercises of Frederick the Great; and General Dumouriez was the first to pit division against division. Napoleon the First neglected them, relying on his own genius and the experience of his troops; even at the great camp at Boulogne, the army assembled for the invasion of England was never called upon to execute other movements than those of ordinary parade. Under the Third Napoleon they had been revived, but were confined to the attack of a skeleton enemy in accordance with a previously arranged programme, a system affording the minimum of instruction to the generals and staff, and exciting neither the interest nor the thinking powers of the officers and men. In the summer months of 1870, a smaller number of regiments than usual had assembled at the Châlons Camp, the annual scene of the manoeuvres, but siege exercises only had been carried out.

The utility of tactical instruction of smaller units, of battalions and companies, was not recognised in France; moreover, officers who did not study would have made but indifferent teachers.

THE CAVALRY.

In 1866, the Prussian cavalry had failed to answer expectation. In the shock of battle it had indeed proved superior to the famous horsemen of Austria; but reflecting on the experiences of the campaign, the Head-Quarter Staff came to the conclusion that the organization of the regiments was faulty, and that their tactical employment had been too limited. Intelligence of the hostile movements had been often wanting, the front ineffectively covered, and touch with the enemy often lost. In the years that intervened between the defeat of Austria and the invasion of France, this arm was thoroughly reformed. A more practical, although less economical, system of organization sent only well-instructed men and seasoned horses to the front. Instruction in map-reading was made more thorough, theoretically in the barrack rooms, and practically in regimental exercises and at the manœuvres; and the youngest trooper knew how to gather intelligence, what to report, and how to find his way in an unknown country.

To each infantry division a regiment of cavalry was attached, which provided escorts and orderlies, maintained communication with neighbouring bodies of troops, and when on the march or in cantonments proved a secondary screen for the division, in rear of the independent division of horsemen who covered the general front. The latter was composed of two or three brigades, and each brigade of two regiments. To them were assigned the duties of collecting intelligence by keeping touch of the enemy, of concealing the march of the armies; on the battle field, of engaging the hostile horse, and of supporting their own infantry by charging the enemy's guns and riflemen; after victory or defeat, of following up the pursuit or covering the retreat.

On the outbreak of the war, two squadrons of cavalry were attached to each division of French infantry, and to each Corps d'Armée a division of two brigades of two regiments each, or 2,400 sabres. Reserve divisions were also organized, which remained at the disposal of the Commander-in-Chief.

We have already seen that Napoleon had grasped the lesson which, to superficial observers, appeared the most im-

portant of the Secession War. But he had failed to observe one of equal weight, the excellent use made by the American leaders of their mounted regiments. "Little was said," writes Colonel Von Borbstaedt of the French official instructions, "about the movements of cavalry acting as a "veil to an army, and guarding it against surprise, and "training in patrol duties was much neglected, except in a "few light regiments."

In fact, the duties of reconnaissance, of securing the repose of the other arms while encamped, and of preventing hostile interference with their movements, were expected to be carried out by the weak divisional cavalry, whilst the larger units were retained in rear of the infantry, and their employment was limited to actual battle. The divisional cavalry, even had it been properly instructed, would have found it quite impossible to have performed the rôle laid down for it, for, as a general rule, its whole available strength was frittered away in providing escorts and orderlies.

Lastly, the French squadrons seldom reached the war establishment. The sudden mobilization of the whole force of the country threw the arrangements for supplying remounts completely out of gear; horses had to be handed over to the artillery, and the authorized complement was never present with the regiments.

The regiments of both consisted of four squadrons each. The Prussians numbered 150 sabres, the French about 130.

ARTILLERY

The German artillery was armed with a serviceable steel breech-loader, firing a common shell with a percussion fuze. The batteries allotted to the horse and light field artillery, were nine-pounders; to the heavy field artillery, sixteen-pounders. That this arm, like the cavalry, had not played its proper part in 1866, but had allowed the needle-gun to reap the laurels of the campaign, had been promptly realized. The Austrian guns had been employed with greater boldness and with better judgment. Their practice was more

accurate, and in every engagement they had rendered the hard-pressed infantry the most valuable support.

The marvellous improvement and influence of the Prussian artillery in 1870 was a tribute to the genius of the chiefs who suggested and enforced reform; and to the capacity both for learning and instruction which existed amongst the officers.

France had disregarded the lessons of 1866. Her artillery was far inferior in matériel to the Prussian armament, and her officers clung to antiquated tactics. The training of the personnel was insufficient, and steady and accurate shooting was not taught. Her bronze muzzle-loaders threw a common shell, with a time fuze available at two ranges only, at 2,800 and 1,500 metres; at all other distances it was supposed to burst on contact. A few shrapnel, with fuzes which should have ensured their bursting at four ranges between 500 and 1,300 metres, were carried by the light batteries, but the fuzes were so defective that these powerful shells were of little use.

The horse and light field-batteries were nine-pounders; the heavy, sixteen-pounders, with a small proportion of twenty-four.

THE MITRAILLEUSE.

Any record of the French armament would be incomplete without a notice of this famous machine gun. So great was the mystery that surrounded it before the war—for even the army knew little of its construction and nothing of its working—so exaggerated the stories of its destructive properties, that the soldiers and the public expected from this novel weapon the most extraordinary results.

The shortsighted policy, however, of the Emperor and his advisers, prevented its proper development. It was their intention that the unexpected appearance of a strong and terrible weapon would surprise and demoralize the enemy. The trials of its capabilities had been carried out with most profound secrecy; and when its adoption had been approved, the batteries were carefully locked away in the arsenals, and no examination of their mechanism was permitted.

On the outbreak of hostilities, detachments of artillery, with the necessary teams, were sent to take the arm over ; but in the few days that intervened before the first engagements, there was no time to instruct the gunners in their new duties. Combined in batteries, the mitrailleuses were attached in the field to the divisional artillery. But the question of their tactical employment had never been threshed out. They were used as field guns ; and owing to their shorter range (1,800 yards), were utterly unable to cope with the Prussian cannon. In positions where it was possible to conceal them until the enemy's artillery fire was masked by the advance of his infantry, on more than one occasion they did extraordinary execution.

Despite the secrecy maintained by the French authorities, the Prussian staff was well aware of the fact that a machine gun had been introduced into the armament of France. Machine guns of American and Belgian patterns were examined in model at Berlin, but it was decided that, whilst demanding nearly as many horses and as much apparatus as a field gun, as artillery they were useless, and, as adjuncts to the needle gun, unnecessary.

THE STAFF.

It has already been stated that the promotion of the Prussian officer does not depend upon his theoretical attainments, but on his capacity, practically tested, of conducting operations in the field. But the study of theory is not therefore neglected. However extended the experience of any individual officer, however constant his practice, there must still be situations, so various and so constantly changing are the phases of the battle and the campaign, of which he cannot possibly have personal knowledge. If he would master every move of the game, the devices, tricks, and stratagems, wherewith to foil his adversary's cunning, he must not only saturate his mind with the principles of the tactical art, but he must widen his own experience by drawing on the experiences of others, particularly on those of great and successful soldiers. He must learn, too, what to avoid, what rules cannot be violated with impunity, when and why certain manœuvres are impracticable.

Unless he has this knowledge, his practice in the field will fail. So thoroughly is this appreciated in every rank of the Prussian army, that the military chiefs are content to leave the study of theory to the discretion of the regimental officers, and the system has answered expectation.

At the same time, at the outset of his career, every officer is required to spend a portion of his service at one of the many war schools, and is there thoroughly grounded in the elements of his profession ; but, when he has once taken up the duties of his rank, he is exempted, not from the necessity of study, but from the necessity of theoretical examination. Furthermore, if he is ambitious of staff employment, or solicitous of advancement of any sort whatever, he is compelled to devote himself to the acquisition of professional acquirements, for on the reports of his superiors regarding his industry, zeal, and intelligence, his future career depends.

Enough has been said already on the high aim of the system of administration and instruction in Prussia, and it has been shown that the object is not merely the acquisition of knowledge, but the formation of character, and the development of initiative.

Trained in this practical manner, it follows that the Prussian regimental officers are efficient and self-reliant soldiers ; and it would seem easy to select a sufficient number, who, with further instruction in a larger sphere of duties, would immediately become fitted for employment on the staff.

High, however, as is the general standard of education and knowledge, the regimental officer has to pass a probation of at least six years,—years of incessant application and frequent trials of progress, before he is finally admitted to the coveted position.

Three years' service is a necessary qualification before he can present himself for examination ; and not only during his long probation, but also afterwards, he serves for certain periods in his own as well as the other branches of the army, thus renewing his acquaintance with regimental duties and routine.

The examination for entrance is not competitive ; the course of study lasts three years, and not more than 30 per

cent of those who complete it are permanently incorporated with that distinguished corps, which for more than twenty years was under the control of Count Von Moltke; but the remainder are available for the expansion of the staff in time of war, and to supply casualties. The great strategist of 1866 and 1870-1 more than once publicly declared, with just pride in the success of his own handicraft, that to her staff officers Germany owes much of her military supremacy; and Baron Stoffel, French attaché at Berlin before the war, reported to the Emperor—and he was a keen and impartial critic, as well as an able soldier—that in his opinion, the Prussian Staff was not only far superior to the French, but the most valuable element of her force.

In France, an entirely different system existed, which, since the downfall of the Empire and the reconstitution of the army, has found no apologists. Officers entered the staff corps at the age of 21, proceeding to it directly from the military schools. Their training was purely theoretical; their practical knowledge scanty in the extreme; and their severance from their regimental comrades a fruitful source of jealousy and misunderstanding.

THE TERM OF SERVICE IN 1870.

In Prussia, 12 years' service was exacted from the soldier, 3 years with the colours (in practice commuted to 2½ or even less); 4 years in the reserve, with legal obligation to two periods of duty, not exceeding 8 weeks each; 5 years with the Landwehr, with legal obligation to two periods of duty, not exceeding 14 days each.

Men of superior education, on passing certain examinations, were free to engage as "one year volunteers." They might choose their own regiment and join at the age of 18 if they preferred to do so. The remainder joined at the age of 20. The complement necessary to raise the field force to the war-establishment came from the reserves, men between 23 and 27 years of age.

The Landwehr, formed in distinct battalions, was composed of men from 27 to 33 years of age.

Of the annual contingent of conscripts not more than one-half were called upon to take their places in the ranks; but the residue did not escape their obligations. In time of war, they were summoned to the Head Quarters of their district-regiments, and formed the Ersatz or depôt battalions. They were officered from the regular army, and in two months were considered fit for duty in the field. The Landwehr was officered by men who had retired from the regular army, and by those who had served at least a year in a regular regiment and had passed an examination.

In France the term was for five years, with four in the reserve; but re-engagements as substitutes were frequent. The reserves were never called up for training; many of them had never handled the Chassepôt; the second portion, consisting of 112,000, had only five months' experience of barrack life and discipline, and the Garde Mobile was simply raw material.

Perhaps one of the greatest differences, and as regards discipline and efficiency one of the most important, which existed between the French and German armies, was in the non-commissioned officers. In the former the sergeants and corporals had lost all authority, and were in no way superior to the men in the ranks; no inducement was offered to the best of them to prolong their service, and they were often the ringleaders in mischief and indiscipline. In Germany, on the other hand the greatest pains had been taken to secure men of high character and experience. If he re-engaged for twelve years, a non-commissioned officer had a claim on many lucrative appointments under government; they were entrusted with much responsibility, and the officers were obliged to give incessant attention to their instruction.

As regards the German sergeants, the reflections of an experienced American general, attached to the Royal Headquarters at the siege of Paris, are worth quoting. "I have commanded regiments of volunteers (during the Civil War) & with not a non-commissioned officer in them equal to some of the non-commissioned officers in every German regiment; while I have seen many sergeants there who, in our service, would have been given colonels' commissions."

Every Prussian regiment of infantry consisted of three battalions, No. 1, No. 2, and the Fusilier Battalion. These are indicated in the letter-press by Roman numerals and the letter F; for instance I/12, II/12, F/12. The Fusilier Regiments, of which two, the 39th and 40th, were engaged at Spicheren, number their battalions I, II, III.

In every battalion were four companies, numbered consecutively throughout the regiment; thus, No. 1 to No. 4 form the First Battalion; No. 5 to No. 8, the Second; No. 9 to No. 12, the Fusilier or Third Battalion. The companies are described by Arabic numerals, placed before the number of the regiment; for instance, 1/39, 5/39, 9/39. Batteries were formed into regiments, and numbered through the regiment; but light, heavy, and horse batteries were on separate lists. In the letter-press they are shown thus I/7, I/7, IH.A./7 indicating the First Heavy, the First Light, and the First Horse batteries of the Seventh Regiment.

The French infantry regiments of the Line were each organized in three battalions, numbered and indicated as follows, I/2, II/2, III/2. Both Jägers and Chasseurs (rifles) had but one battalion.

The Prussian corps consisted of two infantry divisions; the French of three in the 2nd and 4th, and of four in the 3rd Corps d'Armée.

In both armies each infantry division consisted of two brigades, each two regiments or six battalions strong.

For the number of brigades in the cavalry divisions, and of batteries in the divisions and the corps, reference may be made to the Order of Battle in the Appendix.

For the strength of battalions, &c., the reader is referred to the first and second pages of the Appendix.

CHAPTER III.

THE COMBAT OF SAARBRUCKEN.

On the 29th of July, Napoleon, as already recorded, relinquished for the time his design of a general advance. But he dared not face the contingency that, in the meantime, Von Moltke might seize the initiative, and throw the French on the defensive. Behind him was Paris, clamorous for conquest, and murmuring at delay. If by word or deed he had suggested that, instead of carrying on the war beyond the Rhine, France herself might have to submit to invasion, the revulsion of feeling would have brought about a tumult in the capital. Dreading his own subjects more than the enemy, he postponed the concentration of his widely severed wings, and resolved by a semblance of offensive operations to quiet the impatience of the mob. To Marshal Bazaine was assigned the command of seven infantry divisions which, with artillery and cavalry, were 60,000 strong. With these troops he was to seize Saarbrücken; whilst the 4th and 5th Corps d'Armée reconnoitred to the right and left, towards Bliescastel and Saarlouis. Saarbrücken, it was assumed, would not be surrendered without a struggle; and, did they attempt to defend it, the 40,000 Germans, reported present near St. Wendel, would be drawn into battle with a superior force. Moreover, it was expected that actual collision with the enemy would throw some light on his numbers and dispositions. In fact, this was the chief military end of the operation; and that such should have been the case is in itself a grave charge against the French Intelligence Department. Four Corps d'Armée were employed to gain the information which a single brigade of cavalry, skilfully handled might have easily obtained. The bridges across

the Saar where it runs parallel to the frontier were closely guarded it is true, but that at Saarguemund was in their own hands. The necessary concentrations for this movement brought the French Corps and their divisions to the following localities on July 31st :—*

2nd Corps.	{	1st Division, S.W. of Forbach. 2nd Division, Oetigen. 3rd Division, Spicheren and Forbach.
3rd Corps.	{	1st Division, St. Avold. 2nd Division, Haut Homburg. 3rd Division, Ham sous Varberg. 4th Division, Bouchepon.
4th Corps.	{	1st Division, Bouzonville. 2nd Division, Boulay. 3rd Division, Teterchen.
5th Corps.	{	1st Division, Bitsche. 2nd and 3rd Divisions, Saarguemund.

Imperial Guard, Metz.

The dispositions for the operation were as follows :—

- 2nd Corps. To carry the Saarbrucken ridge, a low range of heights on the south side of the river, commanding the town, and occupied by the Prussian outposts.
- 3rd Corps. 3 divisions to support the 2nd Corps.
1 division to demonstrate towards Volklingen on the left flank.
- 4th Corps. To reconnoitre the little fortress of Saarlouis.
- 5th Corps. To demonstrate from Saarguemund on the right flank towards Bliescastel.

The troops to advance at daybreak on August 2nd.

The combat which ensued, although at the time invested with a fictitious importance by the inflated despatches of Napoleon and the presence of the little Prince Imperial, is worthy of notice on one account alone. The garrison of Saarbrucken consisted of 6 guns, 450 sabres, and 3,250 bayonets. It was attacked by a complete Corps d'Armée, 25,000 men, with 90 pieces of artillery; but so skilfully was the slender force of Prussians handled, that the en-

* See map, page 91.





gement affords a most instructive example of a rear-guard action, and of a well conducted retreat before superior numbers. Moreover, the disposition of the troops during the preceding days is an excellent lesson in outpost duties.

THE PRUSSIAN POSITION BEFORE SAARBRUCKEN.*

Rising twenty miles away in the Alsatian Highlands the Saar flows northward through the town of Saarguemund. Before reaching Saarbrücken, nine miles distant, the stream turns abruptly to the west; and, running parallel to the frontier, holds its course in that direction for more than seven miles. Leaving the village of Volklingen upon the right, it then inclines to the north-west; and passing through Saarlouis and Saarburg, joins the Moselle a few miles south of Trèves. The river is sluggish but not shallow; of an average width of 60 yards, and flows through a narrow valley whose high and undulating slopes are covered with extensive forests.

Saarbrücken, on the left bank, is open and unfortified. Opposite to, and connected with it, by two stone bridges, is St. Johann; the two together forming a thriving town of 20,000 inhabitants, the railway centre of a rich coal district. The twin city lies in the valley of the Saar, 200 feet below the crests on either hand; but while the hills stand close above Saarbrücken on the south, a long and gradual ascent leads from St. Johann on the north to the great Kollerthaler Forest, through which runs the road to Lebach and St. Wendel, the line of retreat of the Prussian garrison. At St. Arnual, a village 2,000 yards above Saarbrücken, where the river changes its course from north to west, a brook strikes the angle, flowing from the west. This watercourse drains an open valley, parallel to that of the Saar but narrower, which has been named the valley of St. Arnual. Between Saarbrücken and the St. Arnual Valley, rises an isolated ridge, broken into four distinct crests. To the west, the hill on which was the drill-ground of the garrison. Beyond a shallow cutting and above the Lower Bridge, the Reppertsberg. To the east, across a deep and narrow glen, the Winterberg, the highest point, its shoulder looking down

* See map of battlefield of Spicheren.

upon St. Arnual and the angle of the Saar. Between the Winterberg and the Reppertsberg, but standing back, and closing the head of the rift between them, the steep and wooded knoll which is called the Nussberg. On this ridge were posted the Prussian sentries. 150 feet below, at the foot of the terraced slopes on which they stood, for the bare hill-sides were carefully cultivated, lies the St. Arnual Valley, without hedge or wall to divide the little plots of cultivation which chequer its surface like the squares of a chessboard. 2,000 yards beyond, the level is checked abruptly by the woods which clothe with an almost unbroken sheet of foliage the steep slopes of the Spichen Heights, the northern limit of the Plateau of Lorraine. The crest of the heights is 300 feet above the St. Arnual Valley and 150 above the Saarbrücken Ridge. On the plateau, hidden by the timber, were the French camps. Opposite the cutting between the Drill-ground Hill and the Reppertsberg, the crest strikes back at right angles to the south, and a deep re-entrant ascends very gradually, narrowing as it goes, towards Forbach. At the angle thus formed, a long and narrow spur, comparatively bare of trees, runs downward to the valley. This is the Rotherberg, so called from the patches of red earth and stone which scar its slopes, a feature insignificant in itself, for it is dwarfed by the wooded heights from which it springs, but famous in the annals of war. On the other side of the re-entrant, which has been called the Forbach Valley, a great tract of undulating forest stretches as far as eye can range. Along the western border of the valley runs the railway from Metz to Saarbrücken, concealed by deep cuttings and an extensive copse which half closes the mouth of the re-entrant. By this intervening belt of timber, the village of Stiring Wendel, in the centre of the valley, and the little town of Forbach, at the head, were hidden from the sentries on the Saarbrücken Ridge, only the spires of the churches and the tall chimneys of the Stiring Foundry being visible.

The great high-road from the Rhine to Metz, crossing the Saar by the Lower Bridge, winds round the northern shoulder of the Reppertsberg, cuts the saddle between that hill and the drill-ground, dips sharply to the level, and, lined

in 1870 by lofty poplars, passes south over the undulations of the valley. Striking the Rotherberg, it turns half-right, and beneath the shadows of the wooded cliffs of the Spicheren Heights, pursues its way to Forbach.*

The Saarbrücken-Spicheren Road, ascending from the Upper Bridge between the Reppertsberg and Nussberg, leads directly to the Rotherberg, and there inclining to the left and built on a strong embankment, winds round the precipitous bluffs of the eastern face. The easier gradient gained, it passes up the saddle, cuts the sky-line and is lost to view.

On either side the Saar, within the valley and close to the water's edge, are two excellent roads, forming the principal communications between the towns which stand on the river bank.

The St. Annual Valley is seamed with bridle-paths and cart tracks ; but, level and unobstructed as it was, troops of all arms could manœuvre freely over its cultivated area. The harvest had been already gathered.

Two hundred feet below the western shoulder of the Drill-ground Hill, the railway crosses the Saar by a massive viaduct ; and running alongside the line is a road which connects Saarbrücken with Stiring Wendel.

The line from Saarguemund to Trèves passes through St. Johann, running on the right bank of the Saar.

The railway station is on the northern outskirts of St. Johann, behind the centre of the Saarbrücken Ridge 3,000 yards distant on the Metz high-road, in the Forbach Valley west of Stiring Wendel, and close beneath the shadow of the Spicheren Heights, stood the French Custom House, and a little further south a tavern called the Golden Bremm. The frontier ran across the mouth of the valley, and a little to the north was the Prussian Toll House. Between the copse in front of Stiring Wendel and the viaduct was a large farm called Drathzug, and beneath the eastern shoulder of the drill-ground, the German Mill.

Such were the principal features of the country which

* See sketch of battlefield, page 123.

lay within the observation of the Prussian sentries. Their view extended over the St. Arnual Valley and up the Metz High-road within a mile of Forbach, but the lofty beeches of the copse in front of Stiring Wendel allowed only a small portion of the Forbach Valley to be seen.

Directly to the front the thick woods which climb the commanding Heights of Spicheren effectually closed the view, but where the Rotherberg juts out between the heavy timber on either hand a narrow strip of the plateau was visible, and in the far distance the bare slopes of the Pfaffenberg, a commanding ridge, beneath which lies Spicheren Village, just one mile distant from the spur.

To the right front and flank the great forest which takes its name from Saarbrücken, stretches to the horizon; but on the left, the roads on either side the river, are under observation from the Hallberg, a conspicuous hill opposite the Winterberg, forming the other portal of the gate by which the Saar breaks through the Saarbrücken Ridge.

The position was strong, forming a natural bridge-head; but on the flanks the woods approached too close for security, and the garrison was compelled to exercise the greatest vigilance. The front of observation was restricted; the enemy was vastly superior in number, and, concealed by the forests, it was always possible that he might make a sudden dash upon the town.

On the 19th of July, the day war was formally declared, the garrison of Saarbrücken consisted of 3 squadrons of the 7th Uhlans, and the 2nd Battalion of the 40th, (Hohenzollern) Fusiliers. This force had been hastily despatched from Trèves on the 17th, without waiting for its reserves; the infantry, therefore, numbered but 500 rifles.

Up to the 29th the following was the general disposition of the troops (1):—

CAVALRY.

1 troop at St. Arnual	} Patrolling the river roads on the
1 „ „ Brebach		left flank.

- 1 squadron in support { North of St. Johann, on the Dudweiler Road, a mile in rear, furnishing patrols for the Forbach Valley.
- 1 squadron in reserve { At Dudweiler 3 miles in rear of the support; maintaining communication with the 5th Dragoons at Bliescastel, 11 miles east, and with the little garrison of Volklingen (1 Company, 69th Regiment), 9 miles west.

INFANTRY.

- 7th Company { 60 men on Drill-ground Hill. 60 men in support near the Lower Bridge, constantly patrolling the Saarbrücken Forest.
- 5th Company { In support, beyond the river, with a sentry on the Lower Bridge, a section on the viaduct, and a detached post, under a non-commissioned officer, at the Burbach Iron-works.
- 6th Company { On St. Annual Road, immediately below the Nussberg: maintaining a non-commissioned officer's picquet on the Winterberg, patrolling towards the Spicheren Heights, and supporting the cavalry in St. Annual.
- 8th Company { In eastern quarter of St. Johann, supporting the cavalry at Brebach. Sentry on Upper Bridge, and constant patrols towards Brebach.

The bridges were barricaded. 10 Uhlans were attached to each picquet as orderlies.

On the 19th, the supporting squadron rode up the Metz High-road towards Forbach; for French cavalry had already appeared in that direction, and had taken prisoners the officials in charge of the Prussian Custom House at the mouth of the Forbach Valley. From information received from the

country people it was ascertained that General Bataille's division of the 2nd Corps d'Armée was encamped between Forbach and St. Avold.

On the night of the 20th, infantry patrols heard French reconnoitring parties moving on the Metz Road, and discovered that their scouts had visited Gersweiler, a village in the great Saarbrücken Forest to the right front.

On the 21st, a strong infantry patrol proceeded to this hamlet; and the Uhlan scouts brought the intelligence that hostile picquets were posted in the Forbach valley near Stiring Wendel. The post of 5th Company on the viaduct was doubled, so as to patrol more efficiently towards Stiring Wendel and Gersweiler. A company of the 69th from Saarlouis occupied Volklingen.

On the 23rd, French infantry advanced through the Saarbrücken Forest, and a skirmish broke out near the viaduct, the picquet being reinforced by the remainder of the 5th Company. Small parties were observed taking soundings above Volklingen, and a hostile detachment was reported posted at Gersweiler.

On the 24th, a cavalry patrol arrived from Saarlouis, bringing news of the enemy's movements near Trèves and Thionville; and on the same night a detachment of 32 Uhlands and 20 riflemen, led by a subaltern, crossed the frontier, and tore up the rails of the Saarbrücken-Saarguemund railway, at a point where it strikes the Bliesbrücken road.* Reports were brought in that 4,000 French and 28 guns had marched into Saarguemund, and that troops were advancing from St. Avold.

On the 25th, detachments of 5th and 7th Companies, with half a squadron of Uhlands, starting at 2.45 a.m., reconnoitred towards Gersweiler and the Forbach Valley. French posts were observed at the Golden Bremm, and on the Spicheren Heights. The cavalry penetrated the woods to beyond Ottenhausen.

On the 26th, infantry patrols, which had constantly, hitherto, both by day and night, explored the woods on the slopes of the Spicheren Heights, found them occupied above St. Arnual. Vedettes were seen at the foot of the Rotherberg, and a small camp in the For-

* Little damage was inflicted, as the men employed knew nothing about demolition.

bach Valley. The patrol furnished by the 7th Company, which reconnoitred to Stiring Wendel, was composed of a subaltern and 14 men. After sundown, three strong patrols proceeded to the frontier.

On the 27th, a subaltern with 30 men of the 6th Company approached close to Stiring Wendel; another officer, with a patrol of the same strength penetrated the forest above St. Arnual, and ascertained that the enemy was present there in strength. The Uhlans again made attempt to destroy the railway near Reinheim, but were compelled to retire before a stronger force of hostile cavalry.

On the 28th, 440 reservists, fully equipped, arrived to join the 40th; and a strong reconnaissance was pushed forward by the French against the ridge. Two guns on the Rotherberg and two in the Forbach Valley covered the advance of two companies of infantry, whose approach was early discovered by the patrols. The Prussian supports reinforced the picquets, and the enemy soon withdrew. The artillery alone opened fire, but although a score of shells fell upon the drill-ground, and a tavern called the "Bellevue," which stands close to the cutting, was struck, no casualties occurred amongst the troops. On the retirement of the French two sections of Fusiliers reconnoitred towards the Golden Bremm; a stronger patrol crossed the frontier after dark. Apprehensive that this demonstration might be the prelude to more serious operations, and determined to gain early information, the Prussian commander, Lieut.-Col. Von Pestel, despatched at daybreak on the 29th three patrols, each composed of a few troopers and 80 rifles; one from St. Arnual, a second up the Metz high-road, a third towards Stiring Wendel. No signs of an immediate advance were, however, discovered. At night-fall strong patrols, of 120 men each, searched the St. Arnual Valley.

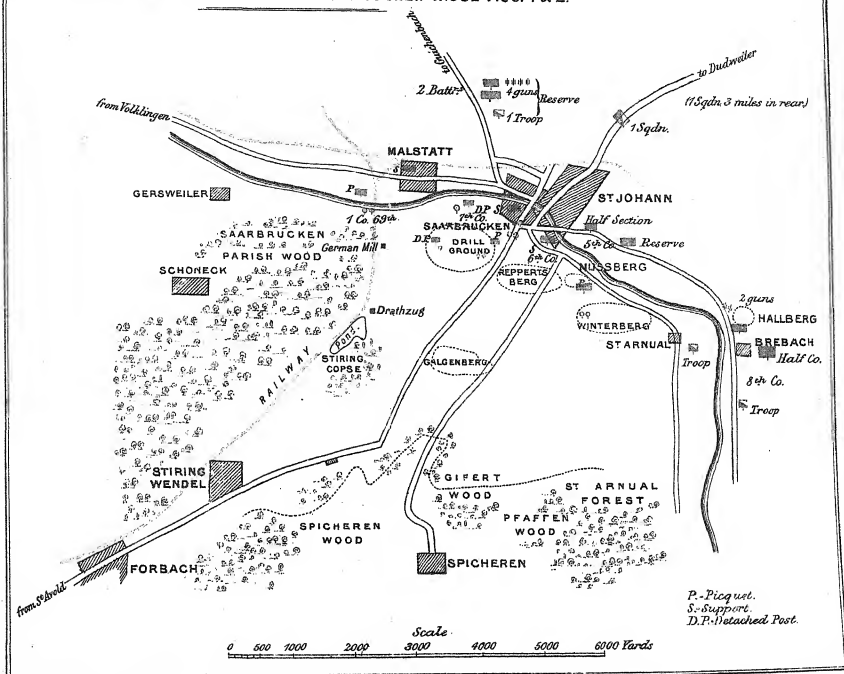
On this day the First German Army began its advance from the Rhine.

On the 30th the sphere of operations was enlarged, and Schoneck, a village in the Saarbrücken Forest to the east of Stiring Wendel, was visited by a detachment of the 40th Fusiliers. A patrol of 34 men made its way through the St. Arnual Forest, drove back a hostile picquet, and, favoured

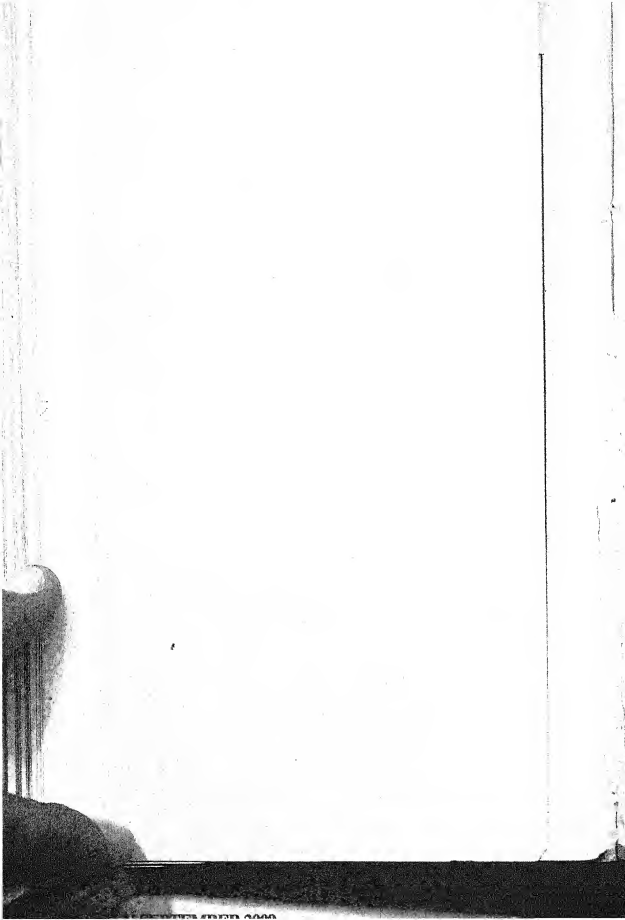
by the dim light of the early morning, obtained a comprehensive view of the interior of the plateau and of a large French camp. Working parties were observed from the ridge constructing entrenchments on the Rotherberg. Strong reconnaissances were pushed down the river roads on the left flank, and a somewhat lively skirmish broke out near St. Arnual. The inhabitants of the district, moreover, reported that the enemy had thrown a bridge of boats between Grossbleiderstroff and Hanweiler, and that his cavalry had at length crossed the river.

The Second Army commenced its forward movement from the Rhine during the last day of July, and the first of August saw large reinforcements arrive at Saarbrücken. A company of the 69th Regiment from Volklingen relieved the picket of the 40th at the Burbach Ironworks, whilst the 1st and 2nd Battalions of the Fusiliers, together with a light battery and a troop of the 9th Hussars, the whole under the command of Major-General Von Gneisenau, took post at Raschpühl, a clump of houses on the hill-side above St. Johann, covering the line of retreat. This force formed part of the VIII Army Corps of the First Army, which had now begun to concentrate at Wadern, 20 miles in rear; and the Saarbrücken garrison may henceforth be considered as the advanced detachment of the First Army. Before this welcome addition of strength arrived, Lieut.-Col. Von Pestel, hitherto commanding, had been instructed by a telegram from Head-Quarters to evacuate Saarbrücken, for no less than two Corps d'Armée confronted his tiny force. He reported, however, that the French were afraid of him, and requested permission to remain. Von Moltke assented, and the Fusiliers and Uhlans, although menaced by a far superior force, still occupied the ridge and pushed constant reconnaissances across the frontier. The reinforcement permitted a more advantageous distribution of the outposts; but it is worthy of remark that, notwithstanding the force had now increased from one to three thousand rifles, not a single extra sentry was placed along the front; and, although the strength and disposition of the pickets underwent alteration, the 2nd Battalion 40th, which had become thoroughly familiar with the ground and with

SKETCH MAP PRUSSIAN OUTPOSTS ON SAARBRUCKEN RIDGE AUG. 1 & 2.



(No Face Page 57)



the range of every landmark, was not relieved, despite the severity of the duties.

On the right a picquet of the 69th held the viaduct, with the remainder of the company as support in Malstatt. The 7th Company of the 40th occupied the Custom House above the Lower Bridge, sending a subaltern and 35 men to the drill-ground. Two double sentries, posted at intervals on the high-road, formed the connecting links by night between picquet and support. On the right shoulder of the hill, overlooking the approach from Stiring Wendel and also the sentry on the viaduct, a non-commissioned officer and 6 men (9 by night) were placed as a detached post, 800 yards distant from the picquet. A non-commissioned officer and 6 men were also stationed midway between the Custom House and the viaduct, in order to furnish immediate information of an attack on this important point. Constant patrols were sent out both from picquet and support in the direction of Drathzug.

In the centre, the 6th Company maintained a picquet on the Nussberg: 2 non-commissioned officers and 20 men, with a double sentry on the Winterberg. This party was reinforced by night by a subaltern and 20 men, thus forming a strong guard across the Saarbrücken-Spicheren road. The remainder of the company occupied a house near the Upper Bridge; 4 non-commissioned officers and 24 men being constantly employed on patrol, and a double sentry posted on the St. Annual Road.

The left, beyond the river, was committed to the 8th Company: 120 men in Brebach Village and 120 at the foot of the Hallberg, ready to man either the strongly-fortified churchyard of the village, a breast-work which had been thrown across the railway, or a shelter-trench which had been constructed on the river bank.

The 5th Company lay in reserve between the Upper Bridge and the eastern entrance to St. Johann, with half a section (40 men), near the Lower Bridge.

The cavalry retained its former positions, leaving orderlies with each infantry picquet.

The 1st and 3rd Battalions of the 40th, with four guns, remained at Rächspfuhl.

Two guns of the light battery were posted on the lower slopes of the Hallberg, on the extreme left. Fear of jeopardizing their retreat over the narrow and barricaded bridges was evidently the reason that none were placed upon the ridge.

The detail of patrolling as given above must not be held to imply that the duties of the 2nd 40th, during the sixteen days they occupied the Saarbrücken Ridge, were of an easy nature.

Besides the expeditions to the villages between the hostile lines, and the reconnaissance of the roads to front and flanks, constant communication was kept up between the different sections of the force. The work was unceasing and exacting. The heat of the weather was very great; and frequent alarms, raised by the firing of the patrols, or the exaggerated reports of the country people, disturbed the repose of the wearied soldiers.

At the same time the efforts of this slender force were not unrewarded. 50,000 French were held at bay, for the going and coming of the patrols, the presence of the picquets on the ridge, and the appearance at all hours of strong parties of infantry and cavalry, imposed so effectually on the enemy that it was believed in their camps and even at the Imperial Headquarters that Saarbrücken was occupied by a considerable force. Their reconnoitring parties were held in check; the mystery as to the German numbers and dispositions prevented any attempt to seize the river towns or even to destroy the railway and telegraph lines; and although the French soldiers were suffering from want of supplies, German citizens were saved from the unwelcome presence and requisitions of the foe.

An English officer, Captain Seton, of the 102nd Fusiliers, accompanied the 40th throughout the campaign in France. He has left a record of his observations, and it is interesting to note the points which impressed him at Saarbrücken. Whilst enlarging on the strength of the Prussian position, he notes the skilful dispositions made for the defence of the bridges, the sparing use of sentries, the activity and frequency of the patrols, giving us to understand that the object of the Prussian commander was, without provoking the French,

to appear perfectly confident, as if he were strongly supported. Whenever the alarm was sounded, and the troops were mustered to defend the position, he tells us that "every one, down to the privates, knew how to cover himself, either by availing himself of immediate natural advantages, or by bringing to his post whatever useful article, a log, a barrow, or such like, lay within his reach;" and he adds that in every case an effective cross-fire was provided.

It seems an error not to have provided permanent cover for the picquets. A few earthworks would have still more effectually imposed upon the French. It is not improbable, however, that such a proceeding might have provoked attack.

In the frequent collisions with the enemy's patrols both Uhlans and Fusiliers suffered a few casualties, and it would appear that there was a good deal of unnecessary firing at vedettes and single scouts. At the same time, with strong parties working through thick woodland, it was often impossible to disengage without a skirmish.

It may be added that from the observations of officers and men employed on reconnoitring duties and from the examination of the peasants and prisoners, valuable information was obtained and transmitted to Head Quarters. It is also important to notice that the dearth of supplies and transport in the French camps was common talk amongst the Prussian troops, and a strong impression had gained ground that it would be many days before the enemy would be in a condition to advance.

It did not escape the observation of the sentries that the reveillé was not sounded as usual in the French encampments on the morning of the 2nd of August, and towards 9 o'clock the cavalry scouts reported that a general and his staff were riding from the direction of Forbach as if for reconnaissance.

Nothing further, however, was discovered. The enemy's movements were completely screened by the woods, and the patrols, furnished to-day by the 9th Hussars in order that the French might be induced to believe that reinforcements had arrived, had been withdrawn, when suddenly, about ten o'clock, the sentries gave the alarm.

Advancing on both flanks, a strong force deployed along the whole length of the St. Arnual valley, followed by heavy columns of infantry and guns. As the Prussian picquets stood to arms, and watched the enemy's masses streaming down the Rotherberg, up the Forbach valley and the river road, they saw that the ridge was lost. But the order had been passed round that retreat was to be deferred until the flanks were turned. Every hour that the French advance might be delayed gave longer warning to the armies pressing forward from the Rhine.

The Uhlan vedettes before St. Arnual were the first to fall back, and as they trotted through the village, a message from the Nussberg informed the 6th Company that hostile infantry was issuing from the woods beyond the valley, and making for the Winterberg. St. Arnual was the first point threatened.

The picquet on the Nussberg extended along the crest of the Winterberg. 40 rifles were detached from the support to occupy the gully on the right, whilst the remainder doubled forward to St. Arnual. As this party took post amongst the scattered trees that clothe the lower slopes of the Winterberg, the head of a heavy column, debouching by the river road, broke into a long line of skirmishers across the stubble. The scouts were already out in front, and although the range was fully 1,200 yards, the Chassepôt bullets whistled shrilly past.

The two guns upon the Hallberg now opened, and from the shelter trench upon the river-bank the fire of 80 rifles, although the distance was too great for effective practice, checked for the moment the advance of the enemy's right. But his battalions further to the left pressed rapidly forward against the Winterberg. Behind that hill lay the line of retreat to the Upper Bridge, and, fearing to be cut off, the captain of the 6th Company gave the order to withdraw by the Saarbrücken Road. A French field-battery came into action against the little force across the river, and the skirmishers, covered by its fire, swarmed into St. Arnual and began to scale the Winterberg.

As its flank was now uncovered, the picquet on the height, after exchanging a brisk fire at long range with

the French skirmishers, in its turn descended to the bridge, followed by the detachment occupying the ravine.

The 5th Company had taken post upon the Reppertsberg. By this time not only had the hill across the gully on their flank been carried, but the valley in front was filled with French. The brilliant sunshine glanced from ten thousand bayonets, and the blue and scarlet uniforms lent vivid colour to the animated scene. Deployed behind a waving line of skirmishers, which covered the advance with a rolling fire, a long array of battalions in close order stretched far to right and left. The tirailleurs pushed onward at a run. The foot of the ridge was gained and the red *kepis* of the foremost soon rose above the crest-line. The ardour of the leaders had, however, led them too far forward, and the marksman's section, which had been drawn up behind the reverse slope of the ridge, dashed across the stubble and drove them down the hill. The supports followed quickly, and the whole company, extending along a hedge-row, brought a heavy fire to bear upon the enemy immediately below, whilst the left section engaged the force upon the Winterberg, across the gully.

The 7th Company, upon the Drill-ground Hill was meanwhile confronted by an entire brigade of six battalions, with a second brigade in close support. Troops were also observed descending the Rotherberg, from which a battery had already opened fire. The picquet had extended along the crest to the left of the road at the first alarm, and under the lofty poplars that fringed the hill in rear many of the inhabitants of Saarbrücken watched the brilliant spectacle of the French attack. So rapid was the advance that, when the support reached the heights, it came at once under fire. 40 men reinforced the picquet, and extended on the drill-ground; but the enemy had still 1,200 yards to traverse ere he reached the ridge, and the Fusiliers made no attempt to reply to his brisk but useless musketry. The remainder of the company was posted (under cover of the reverse slope), on the high road.

The hostile skirmishers had crossed the hollow at the foot of the hill, and their leading files were already climbing the terraced slopes, when a sudden burst of musketry was heard

to the right rear. A force was endeavouring to turn the ridge from the Saarbrücken Forest, and had attacked the picquet on the viaduct. Almost at the same moment the Reppertsberg was abandoned. The 5th Company, enfiladed from the Winterberg, had been compelled to withdraw.

Although his left was now exposed, his right menaced, and overwhelming numbers were pressing heavily against his front, the leader of the 7th Company was determined to secure an unmolested retreat.

His men were instructed to reserve their fire until the enemy approached within 300 yards. Notwithstanding the storm of musketry to which they were exposed, the order was carried out with precision and effect.

The French advance was roughly checked. Their sharpshooters halted and sought cover on the hillside.

The 5th Company had now reached the road below the ridge, the skirmishing section, on the crest above, holding back the pursuers with a steady fire, and even menacing by forward rushes the foremost groups.

In front of the 7th, the crowd of hostile riflemen rapidly increased, gathering strength for an onward rush; the musketry swelled to a heavier roar, but not until the whole of the 5th Company had reached the bridge was the order given to retire.

Covered by the heavy independent fire of the picquet, the support dashed down the further slope in two separate columns, and was followed in a few minutes by the last defenders of the ridge.

As the dark blue uniforms and spiked helmets vanished in clouds of smoke, the French infantry advanced on all sides, but with cautious movements, and when their loud *vivas* announced that the heights were won, the Fusiliers had almost gained the bridge. As the circle of fire closed round them and annihilation seemed inevitable, they had adroitly slipped away, gauging the moment to a nicety, and leaving but seven severely wounded men in the enemy's hands.

The barricades across the bridges were held by the 3rd Battalion of the 40th, which had been called up from Raachspfuhl at 11 o'clock.

Saarbrücken was now evacuated, but the French made

no attempt to follow up their success, or to seize the town. Only a few scouts approached the bridges.

Two field batteries and one of mitrailleuses were then brought up to the ridge, and engaged the four pieces posted above Malstatt at a range of 2,200 yards. The duel was unequal, but by frequent changes of position the Prussian battery escaped destruction, and not until guns of a heavier calibre opened fire from the Reppertsberg, was it driven to seek shelter in the Kollerthaler Forest.

Whilst this action was in progress and shells were bursting on the drill-ground, Napoleon and the little Prince Imperial ascended the ridge and rode forward to the poplars. Beneath their feet lay the river and the towns, and beyond, the long green hill with the darker forest creeping down its slopes. Save the guns near Rachspfuhl there was no appearance of the enemy, for the Fusiliers were hidden by the buildings; but whether suspicious that the woods beyond were full of men and that the retreat of the garrison was merely a ruse to draw them into an unequal conflict beyond the Saar, or whether still unready for a decisive advance, the French, although so easily victorious, showed no disposition either to renew the fight or to attempt the passage of the river. They seemed, on the contrary, apprehensive of attack, for the sappers were soon busy on the ridge, and by sunset a long series of shelter-trenches and epaulments crowned the northern crest. The towns were left unoccupied, and not a single patrol attempted to explore the country beyond St. Johann; a striking contrast to the activity of the late possessors of Saarbrücken.

At 2 o'clock, Von Gneisenau ordered a general retreat upon Rachspfuhl. This was effected with little loss, although the retiring troops were assailed by artillery and mitrailleuses.

At this new position assembled 11 companies of the 40th and the company of the 69th from the Burbach Foundry. The latter had taken but little part in the action, but it had watched the right flank closely. The picquet on the viaduct had been slightly engaged, and a detached party had frustrated an attempt of the enemy's scouts to cross the river from Gersweiler.

From Rachspfuhl, the enemy's movements were plainly visible, but patrols were, nevertheless, sent out in every direction.

At 6 o'clock, French scouts were discovered by one of these in St. Johann, and another reported that a strong force was advancing from Gersweiler (part of Bazaine's Corps d'Armée). Fearing that his position might be turned from that point, Von Gneisenau determined to withdraw. The battalion of the 69th from Volklingen and the Uhlans from Dudweiler had now come in. The Hallberg force was instructed to rejoin as soon as possible, and the remainder retired by the Lebach Road.*

After a march of 7 miles, the 2nd Battalion of the 29th Regiment, a squadron and a battery, were found at Guichenbach. The 29th was ordered to furnish the outposts, and the remainder bivouacked at Hilsbach, a mile in rear. The Hallberg detachment fell back on Dudweiler, and did not reach the rendezvous till the following morning.

During the afternoon, notwithstanding the retreat of the Prussians from the town, the French remained inactive. The whole of the 2nd Corps, with the exception of the cavalry and reserve artillery, encamped in the St. Arnual valley. As for the part played by the flanking divisions, that of Bazaine's Corps had engaged, with a strong body of infantry and 4 guns, a Prussian company holding the bridge at Volklingen, but made no serious attack: that of the 5th Corps advanced a force of cavalry, and occupied a village, some 7 miles north of Saarguemund.

The Prussian battery expended during the engagement 127 rounds, the 2nd Battalion 40th, 12,000 cartridges, about 12 per rifle.

The losses on either side were insignificant.

	PRUSSIANS.			FRENCH.		
	Officers.	Men.	Total.	Officers.	Men.	Total.
Killed	—	8		2	8	
Wounded	4	64		4	72	
Missing	—	7		—	—	
	4	79	— 83	6	80	— 86

* See map, page 91.

The French casualties appear exceedingly few in proportion to the ammunition used and the open ground over which they advanced, but the needle-gun was ineffective over 600 yards, within which range few of their skirmishers approached. Moreover, the Prussian fire was maintained with a view of showing a bold front and making an appearance of strength, and not with any serious purpose of resistance. So skilfully was this accomplished, and so confident the attitude of the Fusiliers, that General Frossard, as well as his troops, believed that they had been opposed by a considerable force.

The English officer already quoted declared the commander's "project of display" was so thoroughly understood, and so adroitly carried out by his subordinates, that every company appeared a battalion at least. He was impressed with the steady shooting of the 40th. In spite of the numbers that threatened to overwhelm them, the men were cool and well in hand.

It would scarcely have been a matter of wonder had the contrary been the case, for many were young soldiers of but nine months' service, and one half the fighting strength had only rejoined the colours within the week. The reader also can scarcely fail to notice the skilful manner in which the withdrawal from the ridge was executed, each picquet holding its ground until its flanks were threatened, but avoiding unnecessary loss, and taking care to cover the retreat of the companies that had already fallen back. Although separated by wide intervals, the companies worked in exact combination, co-operating with the precision of a field-day.

At 6 o'clock, Von Gneisenau had held his ground long enough to prevent the French pushing forward their reconnaissances into the Kollerthaler Forest; he had discovered all he could of their intentions, he had been ordered to fall back, and the longer maintenance of his position could serve no useful purpose.

Although up to this time he had acted with judgment and resolution, it appears, reading between the lines of the Staff History, that he now committed a mistake.

On his arrival at Hilsbach, he found there Lieut.-General

Von Barnekow, commanding the 16th Infantry Division, to which the 40th belonged, who immediately made arrangements for regaining touch of the enemy. The capture of Saarbrücken appeared to point to the immediate advance of the French, and it was a matter of the greatest moment that early and full information of such a movement should be given to Royal Head-Quarters and the commanders of the armies. By removing the whole of his force, cavalry included, to Hilsbach, Von Gneisenau had relinquished all chance of fathoming the enemy's intentions. We learn that by the next morning patrols had been sent out towards Dudweiler, Volklingen, and St. Johann, and that the outposts were pushed forward so as to watch the outskirts of the Kollerthaler Forest.

The French troops actually present at the engagement were four brigades of the 2nd Corps d'Armée, 18 battalions and 4 batteries, under General Frossard. The remainder, (2 brigades and 10 batteries) of the 2nd Corps, as well as 3 divisions of the 3rd Corps, were held in reserve, and the greater part did not leave their camps.

On the intelligence being received that the French were advancing, the rolling stock was removed from St. Johann, and the railroad broken up (temporarily) in rear.

CHAPTER IV.

THE FRENCH DISPOSITIONS FROM AUGUST 3RD TO AUGUST 6TH.

The reconnaissance in force of August 2nd, announced in Paris as a brilliant victory, stilled for a time the impatience of the French people, but failed altogether to clear up the situation at the front. No attempt was made to follow the garrison of Saarbrücken as it retreated; and although the bridges over the Saar were in Frossard's hands, and his cavalry had free access to the northern bank, not one of his troopers crossed the river.

During the engagement, two strong detachments of the 5th Corps d'Armée had explored the roads leading north and north-east from Saarguemund; but their advance had been limited to seven miles, and, consequently, although one of them fell in with some Prussian dragoons, it is not surprising that no information was obtained as to the whereabouts of the enemy's main body.

By the morning of the 3rd of August, the strength of the German cavalry along the front had visibly increased, and from Trèves to Bliescastel, along the whole line, their activity was unceasing.

On the march and in their bivouacs, the French divisions were alarmed by the appearance of hostile scouts. By day and night, through the streets of every frontier village, rang the hoof-strokes of patrols; on every country road were to be seen the lances of the Uhlán; each commanding eminence was crowned by a vedette; and on the skirts of the French reconnoitring parties, imposing bodies of cavalry and infantry combined, single horsemen were often to be observed, who, when pursuit was threatened, disappeared

in the forests. Each one of these troopers had something to report; and telegram after telegram flashed along the wires to the Royal Head-Quarters at Mayence, each containing no more than a scrap of information, but which, pieced together by Von Moltke's Staff, gave an accurate picture of the French dispositions. And so the great strategist, by means of those solitary horsemen, kept his fingers on the enemy's pulse, watched his marches and his counter marches, his earth-works rising rapidly on the Saarbrücken Ridge, noted the indecision of his movements, the inactivity of his cavalry, the dissemination of his divisions, and waited imperturbably for the moment that would see the concentration of the German host completed.

Since Von Gneisenau's rear-guard had vanished in the Kollerthaler Forest, not a single Prussian infantry soldier had come within the observation of the French outposts; but so constant was the going and coming of the horsemen, so unexpectedly did they appear at points that were miles within the frontier, that an uneasy feeling of insecurity spread through the French encampments. With what seems almost a foreboding of Weissenburg and Spicheren, the surrounding woods were regarded as something sinister; and, when night had fallen, the imagination of the sentries peopled them with enemies, and heard within their sombre depths the sound of the Prussian trumpets and the tramp of marching men. The Emperor and his advisers, shrinking in irresolution before the veil which their own ineptitude had drawn between the frontier and the Rhine, shared the apprehensions of the soldiery. Attack was expected now from this quarter and now from that. Each trifling telegram was productive of the greatest excitement, and orders and counter-orders, following in rapid succession, harassed and demoralized the troops. Ignorant of the enemy's dispositions, swayed by every alarming rumour or by hopes based on insufficient information and false inferences, Napoleon was incapable of adopting any resolute plan of combination either for attack or defence.

It had been decided that L'Admirault's Corps from Boulay was to reconnoitre towards Saarlouis on the 4th. On the 3rd, however, intelligence was received from the Commissary

of Police at Thionville that 40,000 Prussians had passed through Trèves and were marching on either Saarlouis or Thionville. L'Admirault was immediately informed that the latter fortress was threatened, but the reconnaissance, instead of being strengthened and ordered to embrace the Thionville district, was countermanded. Frossard was directed to fall back upon St. Avold if the Prussians appeared in greater force than reported. Marshal Bazaine, who was to have the command in case of attack, joined the 4th Corps at Boulay, and drew back Montaudon's division from Homburg to St. Avold; whilst Le Boenf actually conceived the idea that, in order to protect Saarlouis, 40,000 Prussians, unsupported, were about to cross the Saar and to assume the offensive. Although the Chief of the Staff indulged in cheerful speculations as to the result of such an operation, he does not appear to have long cherished hopes of its execution, and the Imperial Guard was the victim of his premature conclusions. It was first ordered to leave Metz; then to remain in its bivouacs; then to advance to Volmerange, west of Boulay, and whilst this movement was in progress, to return once more to Metz.

Not many hours after Le Boenf had confided to the leaders of the Corps d'Armée his inference based on the support of the Commissary of Police, and preparations had been made to receive the isolated band of Prussians with a far superior force at Boulay, fresh intelligence was received by the Imperial Staff. The alarm was now for the other flank. Von Steinmetz' Army, it was reported, was concentrated between Saarbrücken and Zweibrücken, supported by a corps of the Second Army, with the intention of marching on Nancy, south of Metz.

Two divisions of the 5th Corps were thereupon ordered to Bitsche; the Guard to Courcelles, 13 miles in rear of St. Avold, and a division of the 3rd Corps to Puttelange, covering the Saarguemünd-Nancy road.

But the sun had not set before more startling and more trustworthy tidings came to hand. A French division, the outpost of McMahon's Army in Alsace, had been surprised and defeated by a far superior force at Weissenburg.

For the third time in twenty-four hours Napoleon changed his plans.

The whole of the 5th Corps was at once ordered to concentrate at Bitsche, and a division of the 3rd was despatched to Saarguemund. There was now no doubt that both wings of the long French line were seriously threatened, and the movement of the Prussians against the right wing should have enlightened the leaders to the fact that the enemy had already assumed the offensive.

Napoleon and his Staff at least realized that action of some kind was necessary. During the 5th of August, the Army of the Rhine was divided into two portions, the troops in Alsace being placed under McMahon, those in Lorraine under Bazaine; the Guard being retained at the disposal of the Emperor. But the day passed without any further instructions being issued, and it was not till the morning of the 6th that a despatch was addressed to Bazaine containing instructions for a junction with McMahon by the Saarguemund Bitsche road.

The orders for the 7th of August were as follows :—

The 2nd Corps to Bitsche.

The 3rd to Saarguemund.

The 4th to Haut-Homburg.

The Guard to St. Avold.

Now the enemy's cavalry had already appeared at various points in the neighbourhood of the proposed line of march; and unless Napoleon had rejected as utterly untrustworthy the intelligence of the concentration of Prussian troops near Saarlouis and Zweibrücken, he must have been aware that the operation he was about to undertake was that most dangerous of operations, a flank march across the enemy's front. Moreover, ignorant as he was of the whereabouts of the German main-body, there was still sufficient evidence to show that large forces were present near the frontier; and, under the circumstances, he was bound to act with the utmost speed and resolution. Yet, as we have seen, it was not until the night of the 5th that he made up his mind to a definite design, that of combining with McMahon; and even then, the movement was not ordered to commence until the morning of the 7th, twenty-four hours later. An in-

ferior force has, generally speaking, but one chance of success, that is, being concentrated itself and possessing early intelligence, to act against the extremity of the enemy's line or an isolated portion of his force. The less information, the greater the necessity for concentration. For an inferior force to attempt to cover several points of passage, is but to court destruction. To concentrate in a central position is the only hope; and had Napoleon, when the affair at Saarbrücken failed to reveal the Prussian dispositions, brought up his whole left wing to the neighbourhood of St. Avold, ready either for attack or defence as opportunity offered, or if necessary for retreat, the campaign would have probably opened in a less unfavourable manner.

There is this excuse for his delay. Part of the reserves were still *en route* to join their regiments at the front, and a sudden change in position would have thrown the arrangements for their transport and disentraining still further out of gear; moreover, like the rest of the world, he had as yet scarcely realized the possibility of an army more than 400,000 strong being mobilized and making several forward marches in the space of three weeks.

It is noteworthy, as betraying what seems almost absolute ignorance of the ordinary precautions of war, that, on the 5th and 6th of August, no orders were given by strong reconnaissances to discover whether the enemy's infantry were in a position to interfere with the flank march along the Saarguemund-Bitsche road. On the 7th of August, the day the march was to have begun, the foremost corps of the Second German Army was within ten miles of Bitsche.

Never was the helplessness of a general without information as to his enemy, more strikingly illustrated; never was there a more conspicuous absence of activity and energy in the leaders of an army; never a more complete disdain of the lessons of military history as to the use of cavalry.

We may also remark that, on the 5th of August, even Bazaine was left in ignorance of the Emperor's intentions; and that, on the 6th, none of the subordinate generals knew that the flank march was contemplated. When an army is not concentrated, or when the Commander-in-Chief is not in

close communication, by telegraph or otherwise, with each of the different fractions, it is indispensable that he should give his subordinates a general idea of his intentions; and to do this he must have come to some decision as to what his actions will be in case the enemy assumes the offensive. On the 5th of August, after the outpost of his right wing had been overthrown in Alsace, Napoleon should have instructed Frossard, commanding the outpost of the left wing, as to his conduct in case he was attacked. With such a warning as Weissenburg, it is inconceivable that he should have neglected to do so.

The withdrawal of Montaudon's Division from Homburg, close behind Forbach, on the 4th, and of a brigade of the 5th Corps from Grossbliederstroff to Saarguemund on the same day, so far uncovered the flanks of the 2nd Corps on the Saarbrücken Ridge, that Frossard, early on the 5th, considered it necessary to draw back a brigade of his 1st Division to Forbach and one of the 3rd Division to Spichenen. When the tidings of Weissenburg were received, even these dispositions appeared inadequate for security. The appearance of hostile patrols on front and flank, the reports of spies, and rumours in the town, convinced him that the Kollerthaler Forest concealed a Prussian army. Notwithstanding that his position was protected by the Saar, and that it covered the principal passage of that river, he suggested to Marshal Le Boeuf that he should be allowed to retire from the Saarbrücken Ridge.

"The Emperor has decided," was the reply, "that to-morrow morning, you are to withdraw your Head-Quarters to Forbach, leaving you to concentrate your divisions in such a manner that you may be able to draw back your Head-Quarters to St. Avold, immediately you receive an order from the Emperor to do so." (5)

This despatch, be it noted, said no word as to what Frossard was to do in case he was attacked, and left it open to him to believe that he was bound to maintain his position at Forbach until he received explicit instructions to retreat. Had Le Boeuf added, "it is the Emperor's intention to join McMahon by the Saarguemund-Bitsche road";

or, "if you are attacked before you receive the order to retire, hold your ground and you will be supported by Bazaine"; or, "fall back slowly, retarding the enemy as much as possible, on Calenbronn" (a strong position, previously reconnoitred), the battle of the 6th would have been less disastrous.

On receiving the Emperor's approval of his proposition, Frossard resolved to anticipate matters by a few hours, and withdraw his divisions the same evening, leaving no rear guard whatever on the Saarbrücken Ridge. A large magazine had been established at Forbach, but no attempt was made to commence the removal of the supplies and matériel; a measure which Le Boeuf's telegram, speaking as it did of a further retreat upon St. Avold, fully justified. Moreover, the bridges over the Saar were left intact. Had they been destroyed the enemy's advance would certainly have been delayed; and the demolition of the viaduct, by rendering the railway useless for many days, would, as it turned out, have been of the utmost value to the French.

From the date of the decree assigning the command of the left wing of the Army of the Rhine to Bazaine, the Marshal shares the responsibility of the mishaps along the Saar. At the same time, it must be remarked that this delegation of authority bore the same halting and indecisive character as the rest of Napoleon's measures. McMahon and his colleague were only independent "in respect of military operations," terms vague enough to give rise to much misunderstanding. No special staffs were assigned to them, and both continued in command of their own Corps d'Armée.

Before this arrangement was come to, the troops of the left wing, under the instructions, or with the approval of the Emperor, had assumed the following positions :—

2nd Corps,	{	1st Division,	Stiring Wendel & Forbach.
		2nd ,,	Oetingen.
		3rd ,,	Spichenen Heights.

3rd Corps,	{	1st Division,	Saarguemund.
		2nd „	Puttelange.
		3rd „	Marienthal.
		4th „	St. Avold.
		Cavalry }	
4th Corps,	{	1st „	Teterchen.
		2nd „	Coum.
		3rd „	Ham-sous-Varberg.
		Cavalry,	Boulay.
Guard,			Courcelles.
3rd Cavalry Division,			Faulquemont.

The 5th Corps had been transferred to McMahon's command, but a brigade had been left at Saarguemund, as convoy to the baggage-train.

On the 5th of August an important reconnaissance was carried out by General L'Admirault, commanding 4th Corps d'Armée. His 3rd Division moved in the morning in the direction of Felsberg, where the fortress of Saarlouis came under observation. No hostile troops, save a few vedettes, were to be seen; and the country people declared that the fortress held but a small garrison, and that they had no knowledge of any considerable gathering of troops in the vicinity.

Bazaine, on receipt of this information, ordered L'Admirault to draw still closer to St. Avold, and to occupy Boucheporn and Boulay with two of his divisions on the 6th. His apprehensions of attack from Saarlouis were not, however, altogether dissipated, for the remaining division of the 4th Corps was still retained at Teterchen on the extreme left.

We may notice that on the morning of the 5th, the whole of the 2nd, 3rd, and 4th Corps were within 20 miles of Spicheren, the Guard at Courcelles being distant 28 miles; and that the whole force was within a day's march of the strong defensive line, of which Calenbronn was the centre.*

The total strength of these troops did not exceed 130,000 men.

* See map, page 91.

CHAPTER V.

THE GERMAN ADVANCE TO THE FRONTIER.

On the 29th of July, the greater part of the three Field-Armies had already reached the Rhine :—

The First Army, Coblenz.

The Second Army, Mayence and Mannheim.

The Third Army, Landau and Carlsruhe.

During the day, the First Army, which had already commenced its march, received orders, instead of occupying the line Saarlouis-Merzig, its original destination, to halt behind the line Wadern-Saarburg in order that, if the enemy be advanced, it might not be exposed to an isolated position. The arrival of Napoleon at Metz, and possibly intelligence of the Council of War summoned to meet him at St. Avoird, was, in all probability, the origin of this change of purpose. The two Army Corps which formed the bulk of Von Steinmetz' command, were, when these fresh instructions reached them, still north of the Moselle; the 3rd Cavalry Division had not yet come up, but the 7th Uhlans and the 9th Hussars, two divisional regiments belonging to VIII Army Corps, were watching the front between Trèves and Saarbrücken.

The Second Army, not yet entirely assembled, was at the same time ordered to concentrate on the line Alsenz-Grunstadt, six-and-twenty miles in advance of Mayence, and on the German side of the Haardt Mountains. On the 30th, the 5th and 6th Cavalry Divisions joined Prince Frederick Charles. These 8,400 horsemen were immediately despatched towards the frontier between Saarbrücken and Bitsche, with instructions to establish themselves a short day's march on this side of the frontier, and from thence to

carry out constant enterprises against the enemy, finding and keeping touch with him. Two divisions of infantry were to follow in support.

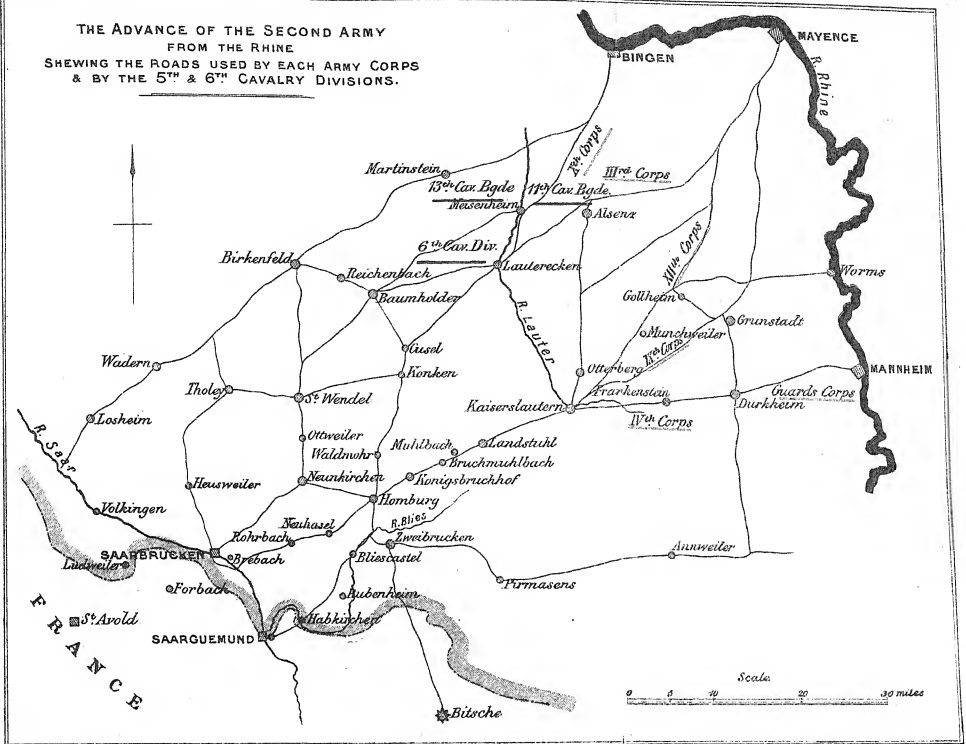
The advance of the Second Army from the Rhine to the Saar, a distance of more than 80 miles, was by no means a simple operation. Between the line Alsenz-Grünstadt to the north east, and Neunkirchen-Zweibrücken to the south-west, and directly across the path of the troops, rises the Haardt, a spur of the Vosges, some 40 miles in breadth. Several good roads cross the first half of this rugged and forest-clad chain. Two on the right were assigned to the III and X Army Corps respectively; but the remainder, traversed by the IX, XII, IV Army Corps, and the Guard, merged into one at Kaiserslautern, half way through the hills, and so continued as far as Homburg, three-and-twenty miles to the front. Four corps, therefore, had to make the passage of this long defile in succession. Moreover, the possibility had to be kept in view that the French might advance rapidly from Forbach, and the Prussians be thrown upon the defensive.

Now, although the mountains are of no great height, yet it was extremely difficult for the army, after leaving the line Alsenz-Grünstadt, to deploy for battle until the line Neunkirchen-Zweibrücken was reached, more than 40 miles to the front; and even then, to deploy the four corps, following one another as far as Homburg on a single road, would be a work of time.

But the line Neunkirchen-Zweibrücken, on the far side of the hills, was but 20 miles distant from the French camps at Forbach and Saarguemund. It was evident, therefore, that the Second Army could not advance from Alsenz-Grünstadt until the intentions of the French were ascertained; and further, that when the movement was once begun, it would have to be carried out with the utmost rapidity. Had the column—more than 120,000 strong—been attacked in the act of disengaging for the defile, a great disaster would probably have been the result.

The operations of the First and Third Armies were designed to facilitate the movement. The First, occupying the line Wadern-Losheim, was in a position to threaten the

THE ADVANCE OF THE SECOND ARMY
FROM THE RHINE
SHEWING THE ROADS USED BY EACH ARMY CORPS
& BY THE 5TH & 6TH CAVALRY DIVISIONS.



flank of the French, should they cross the Saar between Saarlouis and Saarguemund, in a manner they could not afford to despise; whilst the Third was to move immediately, in greatly superior numbers, upon the left wing of the enemy in Alsace—an operation which could not fail to have a great effect upon his plans.

On the 1st of August the III and IV Corps (Second Army), were pushed forward slightly in front of either flank of the line Alsenz-Grunstadt, the former supporting the cavalry of the right wing and centre, which was about 15 miles to the front at Meisenheim, with the 5th Division; the latter, sending the 8th Division to join the cavalry of the right wing at Kaiserslautern.

On the evening of the 2nd, the 5th Division reached Offenbach, the 8th still occupied Kaiserslautern. Only the IX Corps, and the remaining divisions of the III and IV Army Corps had as yet arrived on the line Alsenz-Grunstadt. The cavalry had moved on to the line Tholey-Muhlbach, 20 miles to the front, where they had taken up connection with the First and Third Armies on the right and left flanks respectively. As early as the 31st, Prince Frederick Charles had been warned that, on and after the 2nd, the disentraining stations for those troops who had not already assembled, would be Birkenfeld and Kaiserslautern, both points more than 20 miles in advance of Alsenz-Grunstadt. They were already protected in some measure by the cavalry, by the two infantry divisions which had moved into the hills to support the horsemen, and by the First Army, which had occupied the line Wadern-Losheim on the 2nd; but in order to ensure their complete security, the commander of the Second Army decided to push forward the whole of III and IV Army Corps to Baumholder and Kaiserslautern, with advanced guards still further to the front. Both corps had received orders to reach the places specified on the 3rd.

During the 2nd, Prince Frederick Charles reported the tenor of these orders to Von Moltke. The latter, thereupon, issued further directions, to the effect, that in the event of the enemy having already advanced from Saarbrücken and Saarguemund, the Third Army Corps was to remain

at Meisenheim, the Fourth at Kaiserslautern. If, on the other hand, the enemy made no attempt to push forward, then the Prince's orders for the 3rd of August were to hold good; with the exception that the Fourth Corps was to move, on the 4th, to Landstuhl, ten miles to the front. No further movement of these two corps, forming advanced guards for either wing, was to take place until the remaining corps had closed up to within half-a-day's march.

Nothing was yet known of the engagement at Saarbrücken, and in consequence the following positions were taken up on the 3rd of August :—

III A.C.	{ 5th Infantry Division			Konken.
	{ 6th " "			Baumholder.
IV A.C.	{ 8th " "			Bruchmühlbach
	{ 7th " "			Kaiserslautern

Remainder either on, or in rear of, the Alsenz-Grunstadt position.

5th and 6th Cavalry Divisions, 15 miles in front of Konken and Bruchmühlbach, with patrols on the Blies and Saar.

THE NEWS OF THE ACTION OF SAARBRÜCKEN, AND MEASURES ADOPTED IN CONSEQUENCE.

But during the day came the news* that the French had advanced from Forbach and Saarguemund, and had seized the Saarbrücken Heights. Prince Frederik Charles proposed, if the enemy continued his forward movement, to concentrate the Second Army on the line Alsenz-Grunstadt, slowly withdrawing the two Army Corps already pushed into the Haardt.

Very soon, however, it became evident that the attack on Saarbrücken was not being followed up. The cavalry, in accordance with their instructions, had already gained touch of the enemy, and their commander, General Von Rheinbaben sent in the following information :—

* It is curious that this news did not arrive till the 3rd. The telegraph was in working order.

- (1) A detachment of the enemy, consisting of all arms, in the course of the forenoon of the 2nd of August, had advanced as far as Rubenheim (5 miles south of Bliescastel), and come into contact with patrols of the 5th Dragoons, but had retired in the evening across the frontier.
- (2) A squadron of the 3rd Uhlans had moved, on the 3rd, *via* Brebach, upon St. Johann. A troop forced its way into the town, and captured seven French infantry-men.
- (3) On the same day, a squadron of the 6th Cuirassiers also advanced towards St. Johann, and learnt that the enemy had been seen in Saarbrücken, but had not actually occupied the place.
- (4) Two squadrons of the 3rd Hussars and 15th Uhlans pushed forward in the direction of the lower Blies, and were not fired upon until they arrived within five miles of Saarguemünd.

Von Moltke thereupon came to the conclusion that the French, although they had a considerable force on the Saar and Blies, had no immediate intention of undertaking a serious offensive movement, and, on the evening of the 3rd, he sent the following telegram to Prince Frederick Charles (6):—

- “Wavering advance of the French leads us to
 “anticipate that the Second Army can be
 “deployed on the 6th instant, in front of the
 “belt of forest near Kaiserslautern.
 “The First Army is drawn forward to-morrow
 “(August 4th), upon Tholey. Both armies
 “should aim at a joint co-operation in battle.
 “If rapid advance of enemy cannot be checked,
 “concentration of the Second Army behind
 “the Lauter, the First Army upon
 “Baumholder.
 “The Third Army crosses the frontier to-morrow
 “at Weissenburg.
 “A general offensive is proposed.”

The line "in front of the belt of forest near Kaiserslautern," referred to in the first paragraph, was, as we learn from the orders issued by Prince Frederick Charles, that of Neunkirchen-Zweibrücken.

Should the enemy rapidly advance whilst the deployment of the Second Army was still in progress, the flank position of the First Army and the offensive movement of the Third were relied upon to check him. Should these fail, he was to be held in check in the mountain passes by the foremost detachments of the Second Army until the two leading Army Corps could take up a suitable position.

On the 3rd of August, the whole combatant force of the Second Army and the principal parts of the train were assembled; and from the 4th, although four of the Army Corps had for the present to obtain waggons for the second line of train by requisition, Prince Frederick Charles' troops were in complete readiness for active operations.

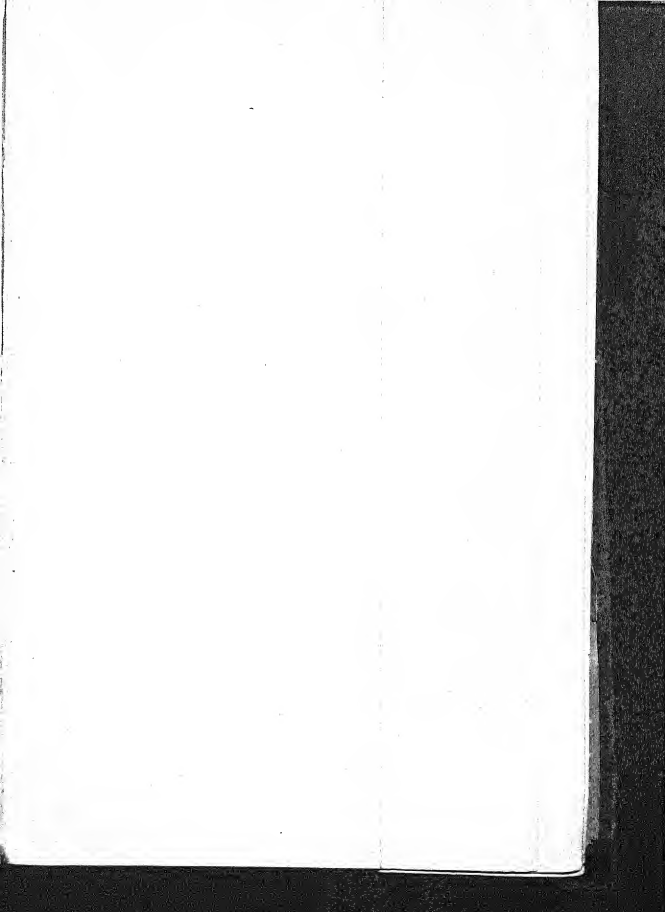
THE FIRST ARMY.

Before we consider the manner in which the passage of the Haardt Mountains was effected by the Second Army, it will be well to relate the movements of the First Army up to the 3rd of August.

The VIII Corps, forming the left wing of Von Steinmetz's command, and crossing the Moselle at Berncastel, reached the neighbourhood of Wadern and Birkenfeld on the 31st.

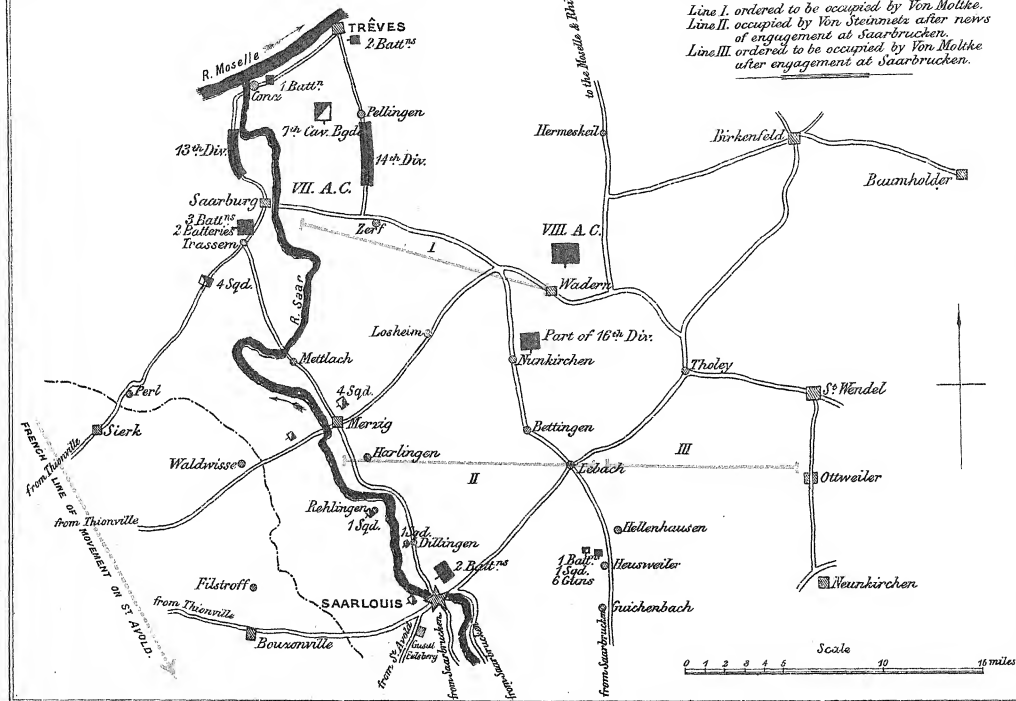
The VII Corps, leaving the Rhine on the same day as the VIII, marched on Trèves, within 20 miles of the frontier. Assembling there on the 30th, the vanguard, consisting of 4 battalions, 4 squadrons, and 2 batteries, pushed forward to Saarburg and Konz.

On the 2nd August the VII Corps wheeled to the left, and moved on Losheim, marching on either bank of the Saar. The line of advance was parallel to the French frontier, and threatened from Thionville and Sierck, 12 and 24 miles distant. Two roads were available, the one, used by the 13th Division, on the French bank of the Saar, crossing at Saarburg; the other, used by the 14th Division, on the



ADVANCE OF FIRST ARMY ON AUGUST 2ND

Line I. ordered to be occupied by Von Moltke.
 Line II. occupied by Von Steinmetz after news
 of engagement at Saarbrücken.
 Line III. ordered to be occupied by Von Moltke
 after engagement at Saarbrücken.



German bank. Much precaution was therefore essential to cover this flank march, but it may be premised that the 9th and 7th Uhlans were already distributed in the river towns, and the efficient service of their patrols ensured early warning of danger. Moreover, their scouts had discovered that the enemy was also moving in an easterly direction from Thionville on St. Avold, that is, that he was already moving on a line parallel to the roads by which the VII Corps was to advance and in the same direction, and was therefore in no condition to interfere with the operation.

The VIII Corps having reached Wadern on the night of the 1st of August, was now in a position to support the VII, and the country was favourable for defence. (7)

Before the march commenced, the 7th Cavalry Brigade (3rd Cavalry Division), moved out 5 miles south of Trèves. The advanced guard of the 13th Division occupied Trassen on the Thionville Road, and threw out cavalry to watch the frontier. A battalion was detailed to hold the bridge at Conz. Under cover of this screen, the division marched to Saarburg, 12 miles distant from Trèves, and there crossed the river.

The 14th Division, which, on the night of the 1st had bivouacked south of Bittburg, marched by the road on the right bank of the Saar to Zerf, leaving two battalions to garrison Trèves.

In rear of the two divisions the corps artillery reached Pellingen, but the trains still remained at Schweich, on the left bank of the Moselle. On the 3rd, the 13th Division advanced to Merzig. The advanced guard reached Haarlingen. A battalion on the left bank secured the flank, and cavalry watched the frontier between Saarburg and Sierok. The flanking detachment crossed the river at Mettlach, and removed a bridge which had been constructed there. The battalion at Conz was drawn forward to Saarburg.

The 14th Division marched southward to beyond Losheim, and drew in the two battalions from Trèves.

The 3rd Cavalry Division, 6th and 7th Brigades, took up its quarters between Losheim and Lebach.

The Corps Artillery reached Losheim. The trains remained at Schweich.

THE NEWS OF SAARBRUCKEN, AND MEASURES PROPOSED IN CONSEQUENCE BY VON STEINMETZ.

The VIII Corps, which had arrived at Wadern, its original destination, on the evening of the 1st, had meanwhile, in consequence of the news of the engagement at Saarbrücken, pushed the 16th Division as far as Heusweiler, 15 miles south of Wadern, and the 15th to Lebach, 5 miles in rear.

This change of position, approved by Von Steinmetz, was initiated by General Von Goeben, commanding the VIII Corps; and was dictated by the expectation of the advance of the enemy from Saarbrücken, and the determination to retard by a flank attack any attempt on his part to move against the Second Army. On the 3rd of August, therefore, the First Army occupied the line Lebach-Merzig; the 3rd and 5th Cavalry Divisions covering the front, the Headquarters of the former being at Heusweiler.

The Corps Artillery was at Lebach; trains at Wadern.

Now, according to the reports received from the cavalry patrolling the frontier, it might with certainty be assumed that the French were in process of concentrating round St. Avold. Although hostile troops had been observed between Waldwisse and Filstroff, on the 1st of August, the Prussian patrols had come across no large bodies of troops north of the Saarlouis-Bouzonville Road since that date. The commandant of the fortress of Saarlouis reported the presence of considerable bodies of troops in the frontier district near the fortress; and it was also said that 40,000 men, under Marshal Bazaine, were assembled round Boulay, and that there were large forces at Saarbrücken. The enemy had not, however, made any attempt as yet to cross the river. Even the telegraphic communication between St. Johann and the stations in rear was carried on without interruption; and from the inhabitants of the town the Germans received constant intelligence of the enemy's attitude at Saarbrücken. From these reports Von Steinmetz inferred that the French main-body was about to move forward against the Second Army. He resolved, therefore, to draw as large a portion of the enemy's force as possible upon himself, and thus facilitate

the projected movement of the Second Army through the mountains, and its subsequent deployment.

With this view, he proposed advancing on the 4th of August into the line Saarlouis-Hellenhausen; and thence, on the following day, despatching strong reconnaissances up the Bouzonville, Boulay, and St. Avold Roads.

Now, as we already know, the 4th was the day fixed by the Royal Head-Quarters for the Second Army to commence the passage of the Haardt, and this operation could not be completed under three days, that is, not until the evening of the 6th.

The position of the First Army, on the line Lebach-Merzig was already somewhat precarious. It was completely isolated, and support could not be expected from the Second Army until the 7th. The line Saarlouis-Hellenhausen, a day's march nearer the frontier, was still more exposed, and calculated to provoke attack.

But Von Moltke intended that neither the Second, much less the weaker First Army, should be exposed singly to a collision with the main forces of the enemy; and, when he authorized the advance of Prince Frederick Charles' troops, he was careful to provide against such a contingency.

THE MEASURES ORDERED BY VON MOLTKE.

As Von Steinmetz, on the evening of the 3rd, was on the point of issuing his orders for the occupation of the line Saarlouis-Hellenhausen, he received the following telegram from the Royal Head-Quarters:—

- “Wavering advance of the French leads us to
- “anticipate that the Second Army can be
- “assembled in front of the belt of forest near
- “Kaiserslautern. If rapid advance of the
- “enemy cannot be checked, concentration of
- “the Second Army behind the Lauter.
- “Co-operation of both armies in battle purposed,
- “First Army from St. Wendel or Baumholder.

"His Majesty commands the First Army to concentrate towards Tholey on the 4th.

"Third Army crosses the frontier to-morrow at Weissenburg.

"A general offensive is proposed."

In consequence of these instructions General Von Steinmetz at once issued the following order :—

"The First Army commences its advance to-morrow in the direction of Tholey."

"The VII Army Corps concentrates at Lebach ;
"the VIII Army Corps with its 16th Division
"at Ottweiler, 15th at Tholey.

"3rd Cavalry Division between Tholey and St.
"Wendel, northward of the Tholey - St.
"Wendel road."

On the 4th, therefore, the whole army moved to the north-west, away from the Saar. The front was already watched by the 5th Cavalry Division, and the position of the 3rd Cavalry Division was dictated by the necessity of forming a link between the two armies.

During the day, reports were received by Von Steinmetz from Saarlouis, Trèves, and from the patrols of the VII. Corps, that fresh concentrations of troops had taken place towards Sierck, and that the frontier north of Bouzonville was once more strongly occupied. That the right and rear of the First Army were threatened might have been inferred from this intelligence ; but so clear were the reports of the cavalry, to the effect that for some days the French forces had been in process of assembling round St. Avold, that General Von Steinmetz disregarded this demonstration ; and, believing that it proceeded from Thionville, and was probably intended to cover other designs, contented himself with arranging for the reinforcement of the force at Trèves by garrison troops from Wittlich.

The apprehension, vacillation, orders and counter-orders, which the appearance of even a few hostile scouts gave rise to at the French Head-Quarters, are in marked contrast to the manner in which the German leaders rated at its true value every item of intelligence from the front, and to the boldness with which they acted ; and, as a proof of the

confidence and security which the presence of a well-trained and active cavalry ensures, the above incident is well worth attention.

GERMAN MOVEMENTS ON THE 4th AUGUST.*

On the same day, Prince Frederick Charles began his advance through the Haardt, and, at nightfall, the divisions of both the First and Second Armies were encamped in the following localities :—

FIRST ARMY.

VIII	{	16th Division.....Steinweiler. Adv. Gd.
Army Corps.		Schiffweiler.
	{	15th Division.....South of Tholey.
Corps		Artillery.....Dirmingen.
VII	{	14th Division.....Lebach. Adv. Gd. 3
Army Corps.		miles south.
	{	13th Division.....Bettingen. Adv. Gd.
Corps		Huttersdorf.
		Artillery.....Neunkirchen.
		Trains.....Wadern.

3rd Cavalry Division north of St. Wendel, in immediate contact with troops of the Second Army.

SECOND ARMY.

First Line,

III	{	5th Division.....Neunkirchen, & Waldmohr
Army Corps.		(4 miles in rear).
	{	6th Division.....Cusel.
IV		7th Division.....Mühlbach.
Army Corps.	{	8th Division... ..Königsbruchhof. (10 miles
		from Zweibrücken).

Second Line.

Guard.	Frankenstein.
IX Army Corps.	Munchweiler.
X Army Corps.	Lauterecken.
XII Army Corps.	Göllheim.

* See map, page 91.

The 9th Brigade of the III Army Corps at Neunkirchen, was in close communication with the 3rd Cavalry Division (First Army) at St. Wendel. Of the second line, but one corps of the left wing had as yet passed Kaiserslautern. The head of the Guard was 16 miles in rear of the IV Army Corps, the advanced corps on the left flank. On the right, the X Army Corps was ten miles in rear of the 6th Division of the III Army Corps. But both the 5th and 7th Divisions were practically at the foot of the mountains, holding the mouths of the defiles. Did the French advance, the Second Army was thus in a position to retire to the Alsenz-Grunstadt line, covered by the III and IV Corps; and, as connection had already been taken up with the First Army, the co-operation of the latter from Baunholder was assured.

THE CAVALRY ON 4th AUGUST. (7a.)

3rd Division at St. Wendel, linking First and Second Armies.

5th Division—

Right.	{	11th and 13th Brigades.. ...Heusweiler, covering First Army.
	{	11th and 17th Hussars towards Volklingen and Saarbrücken.

6th Division—

Centre.	{	14th Brigade .....Rohrbach.
	{	15th Brigade.....Neuhasel.
Left.	{	12th Brigade of 5th Cavalry Division, with 5th Dragoons of Third Army attached, at Einod... ..13th Dragoons at Pirmasens.

On the right, detachments crossed the Saar at Volklingen, and moved forward to Ludweiler, three miles south. A captain of the 11th Hussars succeeded in penetrating to Emmersweiler, within two miles of Forbach, and almost in rear of the French position. From there he descried infantry and baggage on the march towards St. Avold, and learnt that troops had been retiring in that direction since the early morning.

This reconnaissance showed the Prussians that the left flank of the French position behind the Saar extended no further than Saarbrücken; but, be it observed, it also gave rise to the opinion that the enemy was retiring, and that there would be no combat on the Saar.

The movements towards St. Avold, in reality, were merely unimportant changes within the position of Frossard's Corps, and the withdrawal of Montaudon's Division by Bazaine.

In the centre, some small reconnaissances showed that no essential change had taken place in the position of affairs on the Saar. A party of the 6th Cuirassiers found St. Johann unoccupied, but were fired upon from the Saarbrücken Ridge.

On the left, the frontier was crossed by five detachments, each consisting of several squadrons, some of which penetrated eight or nine miles into French territory. Wherever the enemy was met with he retired; and the 13th Dragoons, joined by a small detachment of Bavarian riflemen (Third Army) on waggons, ascertained the presence of a large hostile camp at Bitsche.

But before these reports had come to hand, enough information had been gathered to show that an attack on the part of the enemy was exceedingly improbable.

MOVEMENTS OF SECOND ARMY ON THE 5th AUGUST.

Prince Frederick Charles had, therefore, on the 4th of August, issued orders for the Second Army to continue the advance through the mountains, and deploy on the line Neuquirchen-Zweibrücken by the 7th.

Having extricated itself from the defiles, it was to be deployed on such a breadth of front as to be available for either a further advance or for battle. (8)

The first line was to be formed by four Army Corps, one on each of the roads leading to the Saar. Two Army Corps were to form the general reserve in rear. The two cavalry divisions thrown out in front were to veil the movements of the infantry, and to reconnoitre those of the enemy; whilst, in case of battle, the First Army would co-operate from Tholey, and 255,000 men would be in readiness to meet the French.

The order did not lose sight of the unavoidable difficulties caused by four Army Corps, with all their trains, moving from Kaiserslautern through a defile some 23 miles long. The second line of trains and the heavy baggage were to remain behind until the 7th, and on that day to move through Kaiserslautern by corps. On the night of the 5th of August, the following were the positions of the various corps of the Second Army :—

First line	{ III A. C.	{ 5th Division, Neunkirchen.
		{ 6th Division, St. Wendel.
	{ IV A. C.	{ 8th Division, Zweibrücken.
		{ 7th Division, Homburg.
Second line*	{ X A.C.	Cusel.
		Landstuhl.
Third line*	{ X A.C.	Otterberg.
		Munchweiler.

The First Army made no move.

The cavalry divisions remained in their old position.

On the right, the 11th Hussars (12th Brigade) made a reconnaissance by Volklingen and Ludweiler towards Forbach. They alarmed a hostile camp, observed troops moving partly by rail towards St. Avold, and the officer in command believed that he saw other indications of a diminution of the enemy's forces about Saarbrücken. The 17th Hussars (of the same brigade), who were pushed forward on the Lebach-Saarbrücken road, also remarked a decrease in the camp on the ridge beyond Saarbrücken. A subaltern with two men rode into the town and brought off two prisoners.

On the left, the patrols of the 6th Cavalry Division ascertained that the village of Habkirchen on the Blies, hitherto never left unoccupied by the enemy, had been evacuated; that a camp at St. Arnual had been abandoned, and that the other camps on the Saar and Blies were breaking up.

The patrols of the First Army learnt that guns had been withdrawn from the Saarbrücken ridge; and private information pointed to rearward movements of the enemy, to which the burning of St. Johann railway station, on the night of the 4th, was held to be the prelude.

There appeared, therefore, but little doubt that the enemy was falling back from the Blies and Saar. It was considered,

* See map, page 70.

however, at the Royal Head-Quarters, that the situation of affairs was not yet sufficiently clear.

A large French camp had been discovered at Bitsche upon the 4th; and, on the following day, reports were received from the cavalry of considerable traffic on the Saarguemund-Bitsche railway. This information seemed to point to an attempt on the part of the enemy's left wing to join Mc Mahon; and a telegram from Von Moltke reached Prince Frederick Charles, containing instructions for the raid of a large body of cavalry on the line of railway.

On the night of the 5th of August, Von Moltke's leading idea was, for the Second and First Armies, so soon as the deployment of the former was effected, to remain in an attitude of expectation and hold fast the French upon the Saar, until the advance of the Third Army into Alsace should produce its effect. In the event of a decisive battle on the Lorraine frontier, the First and Second Armies would attack in front, while the Third Army would probably come up and attack in flank from the direction of Upper Saar. He intended, moreover, that the frontier should be crossed simultaneously by the First and Second Armies, on the 9th of August.

But stress must be laid upon the fact that on the evening of the 5th of August, General Von Steinmetz was not cognisant of Von Moltke's plans.

"As every day," says the Staff History, "might usher in some decisive result, the Royal Head-Quarters thought that no directions could be given extending beyond the immediate events. It was rather considered permissible and necessary, on this and subsequent critical occasions, to control the movements of the large units by definite orders, however much that arrangement might provisionally limit the independence of the Commander of the Armies."

On the 6th of August, therefore, the leader of the First Prussian Army was aware that Von Moltke contemplated a general offensive, but beyond this, he had no knowledge whatever of the purpose of the Commander-in-Chief. It will be seen, however, in the sequel, how the lack of instructions, and consequent misapprehension of the intentions of the Head-Quarters Staff, led to a collision, which, at the outset, bade fair to be disastrous to the Prussians. The

truth appears to be that, to control the movements of vast masses of men, although divided into distinct armies, without admitting the leaders of those armies into the confidence of the Commander-in-Chief, and disclosing to them the general idea of the plan of campaign, is difficult in the extreme. Such armies are composed of numerous strong units, and lacking definite information as to the designs of the Headquarters Staff, the leaders of units (especially in an army where a large initiative is allowed), are apt to form erroneous ideas, and to destroy the symmetry of the whole strategical design. In an army, on the other hand, where initiative is discouraged, a leader may find himself, as did Frossard on the 6th, confronted by circumstances which demand instant resolution, and allow no time in which to ask for orders. The result in either case is likely to prove disastrous. It goes without saying that due precautions should be taken with respect to secrecy, but there remains "the great necessity," to quote Lord Wolseley, "of fully and freely imparting to your subordinate commanders the aim and object of the operations to be undertaken."

On the 5th of August, the First Army Corps, already disembarked at Kaiserslautern and Birkenfeld, together with the 1st Cavalry Division, were assigned to the First Army, bringing the total of the First and Second Armies up to 320,000.

Front covered by the 5th and 6th Cavalry Divisions.
5 brigades : 14 regiments : 56 squadrons ; with
4 squadrons of 5th Dragoons = 9,400 sabres.

31st July Martinstein to Durkheim—33 miles.

1st August Reichenbach to Annweiler—42 miles.

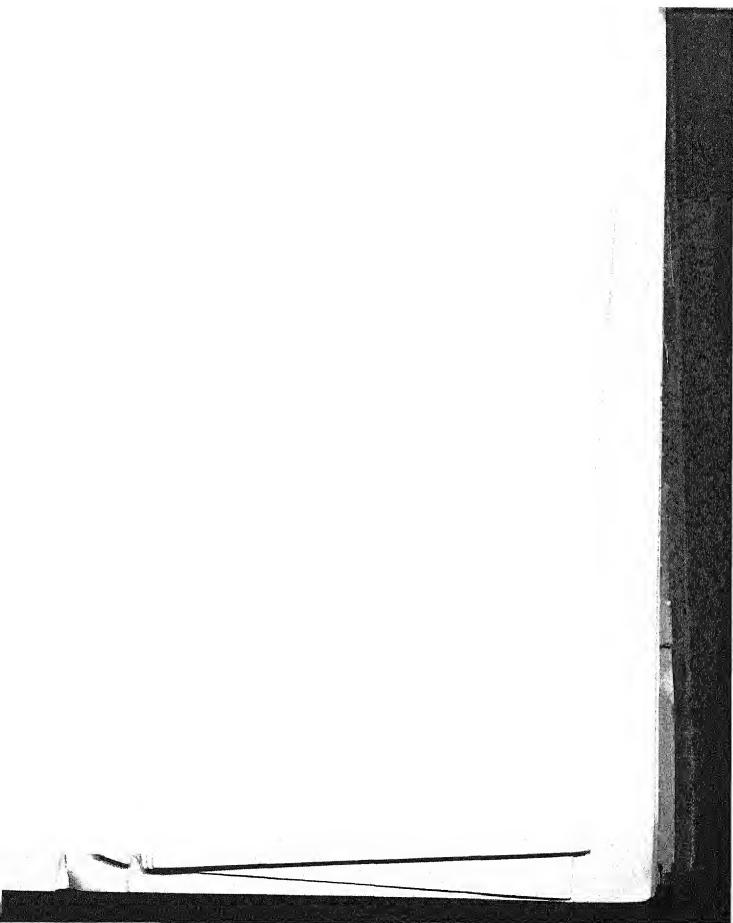
2nd August Tholey to Pirmasens—34 miles.

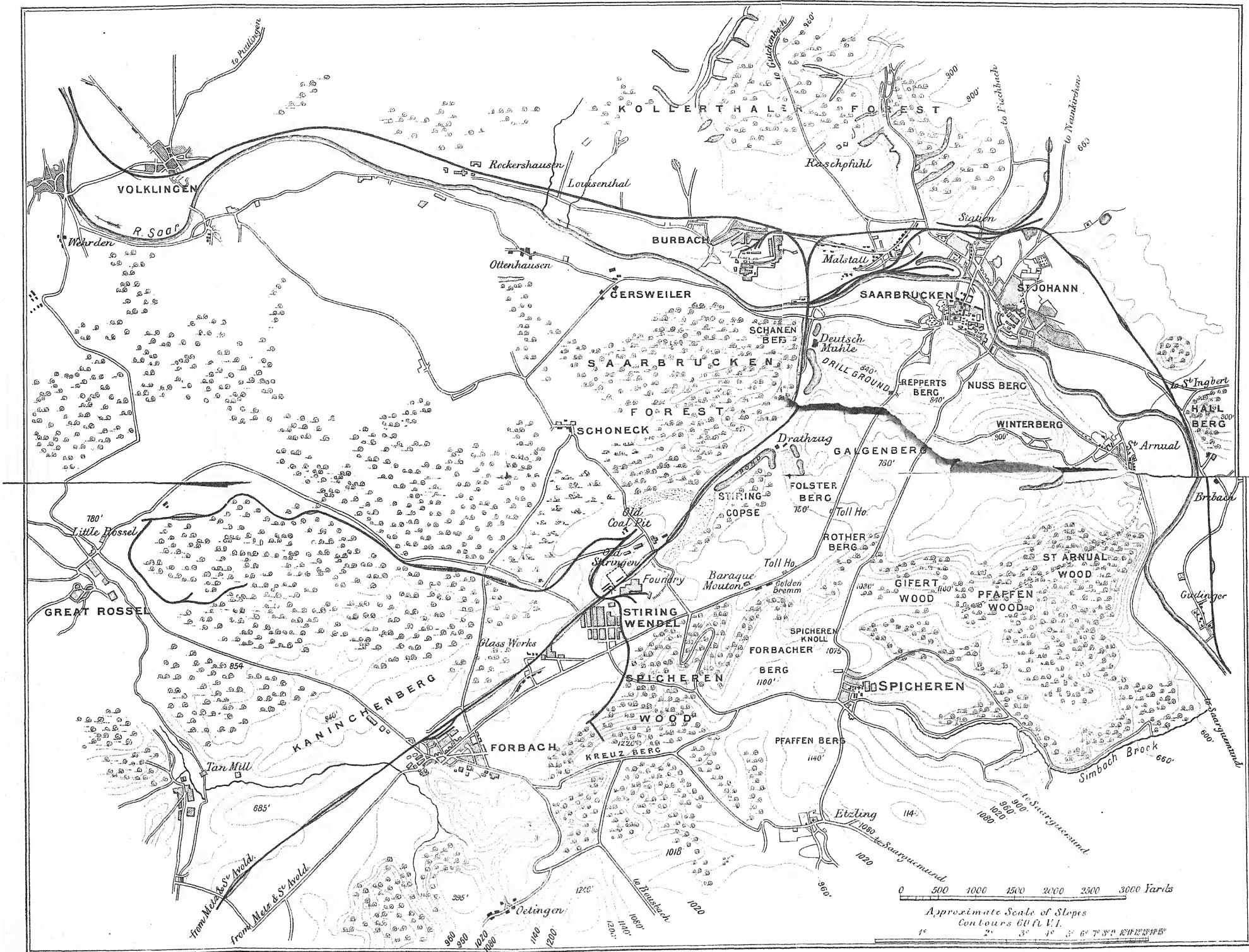
3rd August Eiweiler to Pirmasens—34 miles.

4th August Heusweiler to Pirmasens—34 miles.

Do. do. do.

5th August	{	Advanced patrols 18 miles to the front.
		Two infantry divisions at Neunkirchen and Homburg respectively, about 5 miles in rear of main-bodies of the cavalry divisions.
		About 260 sabres to the mile.





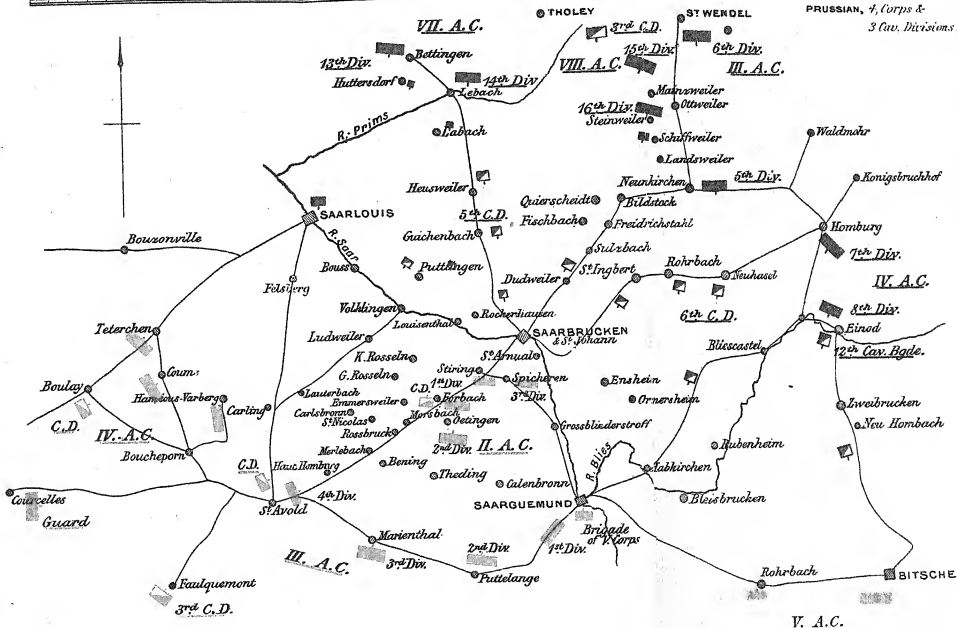
DISPOSITION OF THE TROOPS ON THE NIGHT OF AUG. 5TH.

Within 28 Miles of Spicheren.

FRENCH, 5 Corps D'Armée &
4 Cav. Divisions

PRUSSIAN, 4 Corps &
3 Cav. Divisions

Scale of Miles.
0 1 2 3 4 5 10 15 20





CHAPTER VI.

THE BATTLE OF SPICHEREN.

It was a lovely summer morning, cool and fresh after a night of rain, when the German outposts beyond the Saar broke up their bivouacs in the forest. Before the mists had cleared away Von Rheinbaben's cavalry were pushing forward to the Saar, and when at 5 o'clock the infantry divisions of the First and Second Armies began their march, his squadrons were eight to ten miles ahead of the advancing columns, and his scouts already riding on the river bank.

Behind this screen of horsemen, a mass of 320,000 men, invigorated both by their onward movement and by the tidings of the victory at Wissemburg, was gradually advancing towards the Saar. After the lapse of more than half-a-century, France was once more threatened with invasion; and for the defence of her frontier province of Lorraine, Napoleon could muster no more than four Corps d'Armée, the 130,000 men that formed the left wing of the Army of the Rhine.*

When invasion was definitely decided on by the German Staff, it had been projected, as already mentioned, that the First and Second Armies should reach the Saar upon the 9th of August, maintaining until that date an attitude observant of the French left wing, and awaiting the result of the Crown Prince's attack on the enemy's right wing in Alsace. But this decision was modified by reports received on the 4th and 5th, of the enemy's withdrawal from the Saar. Consequently, on the evening of the 5th, instructions were sent from the Royal Head-

* The 5th Corps (De Failly) was already on its way to join McMahon.

Quarters for the raid on the Saarguemund-Bitsche railway ; and the 5th and 6th Cavalry Divisions were ordered by Prince Frederick Charles to hang closely on the skirts of the retreating foe, and to report the probable direction of his rearward march. At the same time the following telegram was despatched by Von Moltke to General Von Steinmetz : "As the enemy appears to be retiring, the passage of the frontier is now open ; but you should cross the Saar below Saarbrücken, as the road through the town belongs to the "Second Army." This telegram was not received until the night of the 6th, and has therefore no bearing on the events of that day.

ORDERS FOR SECOND ARMY—MORNING OF THE 6TH.

The Second Army had been originally timed to concentrate on the line Neunkirchen-Zweibrücken on the 7th. Until the direction of the enemy's retreat was ascertained, it was not considered judicious by Von Moltke to accelerate the movement, or to alter the instructions already issued for the distribution of the troops upon the 6th. On the morning of that day, therefore, the following were the destinations of Army Corps :—

- | | | |
|---|---|---------------|
| III A.C. from St. Wendel to Neunkirchen, 14 miles | } | |
| from Saarbrücken, with advanced guard
(5th Division) to Dudweiler. | | |
| IV A.C. from Homburg to Zweibrücken, opposite | } | |
| Bitsche. | | |
| Guard A.C. from Landstuhl to Homburg | } | |
| X A.C. from Cusel to Waldmohr. | | |
| IX A.C. from Otterberg to Landstuhl. | } | 1 days' march |
| | | in rear of |
| XII A.C. from Munchweiler to | } | III & IV A.C. |
| | | 2 days' march |
| Kaiserslautern. | | in rear of |
| | | III & IV A.C. |
| | | 3 days' march |
| | | in rear of |
| | | III & IV A.C. |

At an early hour, it was reported to the Head-Quarters of the Second Army by Von Rheinbaben, commanding the 5th and the 6th Cavalry Divisions, that the French had evacuated the Saarbrücken Heights. At 8 a.m., therefore, Prince Frederick Charles gave orders, by telegram, for both divisions to keep close touch of the enemy; for the 5th Infantry Division (III Army Corps) to advance upon Saarbrücken; and for IV Army Corps to push an advanced guard to Neu-Hornbach. Not a word was said as to the advisability of an infantry attack upon the French rear-guard, or of an attempt to hold the enemy fast upon the Saar. It seems evident that the Prince was of opinion that until the issue of the approaching encounter between the Crown Prince and Marshal McMahon was known, any offensive movement on the part of the First and Second Armies would be premature; and further, that he deemed it desirable to postpone attack until the First and Second Armies had joined hands and it was possible to employ their whole strength, in the same field, against the inferior forces of the enemy. In a word, a powerful and combined effort, with many chances in favour of success, and in all probability decisive in result, was preferred to partial and isolated enterprises, where much would be risked and perhaps little gained.

ORDERS FOR FIRST ARMY—MORNING OF THE 6TH.

On the 5th of August, General Von Steinmetz had been warned to evacuate the St. Wendel-Saarbrücken road, leaving it free for the advance of the Second Army. The execution of this order necessitated a general shift of cantonments, for the villages near the highway had to be surrendered to the troops who were to march along it. In view, therefore, of the general offensive proposed by Von Moltke, Von Steinmetz resolved to push his army forward, south and west, withdrawing his left from the road; and to occupy a line advantageous either for the speedy passage of the frontier, or, should the French anticipate that operation by an attack on the Second Army, for striking the left flank of their advance. His Army Order, issued on the night of the 5th, may be thus condensed:—

"The movement to the Saar commences to-morrow.
 "VII Army Corps from Lebach to Guichen-
 "bach, advanced guards towards Volklingen
 "and Saarbrücken. VIII Army Corps to
 "Fischbach. III Army Corps of Second
 "Army, from information received, reaches
 "Bildstock to-morrow. The Nähe Railway
 "forms the line of demarcation between the
 "VIII and III Army Corps as far as Lands-
 "weiler. 3rd Cavalry Division to Labach,
 "5 miles south-west of Lebach, covering the
 "right flank of the army."

Now Von Steinmetz, beyond the fact that a general offensive was proposed, knew nothing of the ulterior purpose of the Commander-in-Chief, and had even conceived an idea that was very far from the truth, expecting that to his own army an independent sphere of action would be assigned. Yet, in the above order, he enjoined no movement that could in any way compromise Von Moltke's plans; and, although convinced that the French were retiring, his intention was merely to assume a position of readiness within a day's march of the Saar.

But as the telegram directing him to cross the river *below* Saarbrücken had not yet reached him, the VII Army Corps was ordered to push forward an advanced guard towards that town. It thus came to pass that on the morning of the 6th both the left wing of the First Army, and the right of the Second (III Army Corps) were moving by roads which met at St. Johann, and led to the same passage of the frontier stream.

The difficulty of retaining the control of enormous masses of troops in one hand is illustrated by the late arrival of Von Moltke's despatch (see page 92). Had it arrived early on the 6th, the roads through the town and the bridges beyond would have been left free to the Second Army, and the risk of collision and confusion have been avoided. The distance from the Royal Head-Quarters at Mayence to those of Von Steinmetz at Tholey was 65 miles, and the telegraph line was not continuous.

ADVANCE OF THE FIRST ARMY.

VII Army Corps, which had been directed to march on the 6th, to Guichenbach, with advanced guards towards Volklingen and Saarbrücken, received the following orders from General Von Zastrow :—

13th Division, from Bettingen to Puttlingen ; with outposts at Volklingen and Rockershausen.

14th Division, from Lebach to Guichenbach ; with outposts at Louisenthal and above St. Johann (9).

VIII Army Corps marched on Fischbach and Quierscheidt, a little to the left rear of the 14th division. The 3rd Cavalry Division watched the right flank of the army along the river Prims. The front, from Bouss to St. Johann, was patrolled by the 5th Cavalry Division, with head-quarters still at Heusweiler.

The two divisions which formed the advanced guards of the First Army, marching abreast, moved in the following formations :—

13TH DIVISION.—LIEUTENANT-GENERAL VON GLUMER.

Advanced Guard	Van	{	2 squadrons, 8th Hussars. 2 companies, 7th Jägers. II/55th Regt.
	Reserve	{	I & F/55th Regt. 5L, 7th F.A. Regt. 2 companies, 7th Jägers.
Main body		{	II/55th Regt. 73rd Regt. 13th Regt. 2 squadrons, 13th Hussars. 6L, 5H & 6H, 7th F.A. Regt. Baggage & Trains

14TH DIVISION.—LIEUTENANT-GENERAL VON KAMECKE.

Advanced guard	Van	{ 1 squadron, 15th Hussars. III/39th Fusiliers.
	Reserve	{ IL 7th F.A. Regt. I & II/39th Fusiliers. (8th Com- pany with baggage). Sanitary detachment. 1 Co. Pioneers, with light bridge train.
Main body		{ 3 squadrons, 15th Hussars. 74th Regt. 2L, 1H & 2H, 7th F.A. Regt. I & F/53rd Regt. (2nd Batt. escort to Corps Artillery). 77th Regt. Baggage and Train.

The composition of the advanced guards differed but little. That of the 13th Division included one-third of the infantry; that of the 14th, one-fourth. To both a light battery was attached, and the strength of the cavalry did not greatly vary.

The distances were probably much the same as those recommended by Verdy du Vernois; namely, 600 paces between the van and reserve of the advanced guard, and 1,000 paces between the advanced guard and the main-body of the division, the entire column thus occupying between six and seven miles of road. The distance differs somewhat to that laid down in the English drill book of 1889, where $1\frac{1}{4}$ miles is given as intervening between the head of the van-guard and the head of the reserve.

If criticism were called for as to the distribution of the various arms, it might be said that the bulk of Von Kamecke's cavalry was placed too far forward, of Von Glümer's batteries too far back. But, in the disposition of troops upon the march, as indeed in every other operation of war, local conditions are first of all to be considered. The work to be done, the character of the country, the strength, armament, position, and tactics of the enemy

must be the basis of the calculation. A pedantic adherence to rule and theory is a fruitful source of disaster; and it is probable that the German commanders, trained as they are to regard the spirit rather than the form of regulations, were fully warranted in thus deviating from routine.

The strength of the Prussian advanced guards in 1866 and 1870, generally from one-fourth to one-third of the effectives of the columns, is said to have exercised a prejudicial effect on the conduct of the tactical operations. Very many battles in either campaign were begun by the commanders of the advanced guards upon their own initiative; and, in such cases, the action, small or great, had to be fought out in accordance with their view of the situation and on the lines they had laid down. The General-in-Chief, compelled to accept and work out the plan of battle devised by his subordinate, was thus deprived of all power of exercising his own skill and judgment, except in furthering that plan, and in feeding the fight from the reserve.

A man eager for action and distinction, finding himself in command of a strong advanced guard and beyond the control of his superior, was doubtless often strongly tempted to independent enterprise; and it may be that such temptation was sometimes yielded to without sufficient cause. But, on the other hand, the leaders of advanced guards achieved on more than one occasion decisive success, by engaging the enemy, when the situation clearly demanded it and there was no time to be lost, without hesitation and on their own responsibility. No German general would have acted as once did Ney in Portugal. In command of Massena's advance and in hot pursuit of Wellington, he came up with the enemy deploying for battle on Busaco ridge. "He had with him," says Napier, "40,000 infantry. "A dark chasm separated the two armies, but Ney's "military glance was sure. He instantly perceived that the "mountain, a crested and not a table one, could hide no "great reserves; that it was only half occupied, and that "the allies were moving with the disorder usual on taking "unknown ground. He wished, therefore, to attack; but "Massena was ten miles in rear; the officer sent to him

"waited two hours for an audience, and then returned to Ney with an order to attend the Prince's arrival. Thus a great opportunity was lost. Scarcely 25,000 of Wellington's soldiers were in line." And this at a time, it may be added, when a single disaster would have led the British Government to have withdrawn their troops from the Peninsula.

To arrive at a just conclusion as to the proper strength for an advanced guard, we must consider the duties it is expected to perform :—

- (1.) To clear the front of all hostile detachments.
- (2.) If the enemy be met, whether advancing or stationary, to seize a favourable position, and cover the deployment of the army.
- (3.) If the enemy is retreating or attempting a flank movement, to hold him fast ; although to this rule there may be exceptions.

Under certain circumstances, when the enemy is at a great distance, or when a broad and bridgeless river lies between, the advanced guard cannot be called upon to carry out the more important—the second and third of these tasks—and in such cases its strength may be diminished, or it may be formed of cavalry alone. But where there is the slightest probability that it may be attacked in force, or that it may have to hurl itself on the enemy's main-body, its strength and composition must be gauged by the numbers that may be employed against it, by the amount of resistance or of offensive power it may be called on to put forth. In the case we are considering, it was within the range of possibility that the French might suddenly advance across the still open bridges of Saarbrücken and Volklingen, and that the advanced guards would have to hold their ground until the main-body, not of the divisions only, but of the whole army, could deploy for battle. In the face of such a contingency it would have been imprudent to deprive them of the capacity for resistance which the infantry and artillery afforded.

The single disadvantage which arises from the great strength of an advanced guard is the temptation to independent action without adequate cause ; but where Napoleon's

maxim is adhered to, that the place of a commander is with his advanced guard, this objection disappears.

When, however, his troops form, as did the First Army, only a portion of the whole force, the position of the commander must be regulated by the facilities of communication with the supreme authority. If the march follows a line of telegraph, no difficulty can arise, and the expansion of the field-telegraph will, in the future, do much to simplify the question; but, if this resource does not exist, in order that instructions and reports may not be delayed, and strategic combinations thereby rendered tardy and uncertain, the commander will often be compelled to leave the conduct of his advanced guard to the discretion of its own leader. Under such circumstances, if collision with the enemy is a possible contingency, it is necessary that the advanced guard leader should be informed as to the general situation and the intentions of the Commander-in-Chief. Initiative is to be encouraged and demanded, but it is only fair to assist the man who is expected to exercise it, by giving him such information as may enable him to regulate his action in accordance with the broad design of the campaign. Had General Von Steinmetz been enlightened as to the purpose of the Head-Quarter Staff of holding back the First and Second Armies until the Crown Prince had developed his attack, and also of concentrating in force against the main body of the French, and had he shared this knowledge with his corps and divisional leaders, all risk of a premature offensive, or of any action at variance with the plans of Von Moltke, would have been avoided.

It has been stated that "If the commander of the whole "were to accompany so considerable a portion of his force "(*i.e.*, a strong advanced guard), there would seem little "ground for allowing an important interval to separate it "from the remainder. For if an engagement took place it "would be an unquestionable advantage to have the whole "at disposal from the outset:" and instances have been cited to show, that if the enemy is met in superior force, this interval may be the cause of the advanced guard and the main-body being defeated in detail. But it may be remarked, firstly, that if the attack of the advanced guard is not

unduly precipitate, this last danger will be obviated. Secondly, it is often possible that the enemy may suddenly advance; in which case it is necessary to cover the deployment of the main-body, and to give the commander, if he decide on assuming the defensive, latitude in his choice of a position, and time for its proper occupation. Thus, Prince Frederick Charles intended, if the French had advanced after the affair at Saarbrücken, to take up a position in rear of the Haardt, under cover of his advanced guard, retreating slowly through the mountains; the advanced guard being composed of cavalry, with strong infantry supports. Again, in the orders issued by Moltke on August 8th, we read:—"It is conjectured from the intelligence that has been obtained, that the enemy has retired behind the Seille and Moselle. The three armies will follow this movement. . . . For the security of the march the cavalry is to be sent forward; supported by advanced guards, pushed well to the front, so that in case of necessity, the armies may have time to concentrate."

Thirdly, if the enemy stand fast, the commander requires time to make his dispositions for attack, and a screen is then of the utmost value. And lastly, when troops are on the march, the advanced guard forms the outposts, under cover of which bivouacs are occupied without disturbance or delay. At the same time, if it be absolutely certain that the enemy is either retreating or standing fast, and it is important to attack him without delay, the interval may be advantageously reduced.

ADVANCE OF THE SECOND ARMY.

The 5th Division of III Army Corps, advanced from Neunkirchen on Dudweiler at 5.15 a.m., in two columns.

9th Brigade—Major-General Von Döring, by the Neunkirchen-Saarbrücken Road. (10)

Advanced guard.	{	1½ squadrons, 12th Dragoons.
		48th Regiment.
		3 L. 3rd F.A. Regiment.
		Sanitary Detachment.

Main body. { 3rd Jägers.
 8th Grenadiers.
 $\frac{1}{2}$ squadron, 12th Dragoons.
 III H. 3rd F.A. Regiment.

10th Brigade—Major-General Von Schwerin,
 by the Neunkirchen-St. Ingbert Road.

3rd & 4th squadrons, 12th Dragoons.

12th Regiment.

IV. & 4 L., 3rd F.A. Regiment.

52nd Regiment.

STRENGTH AND DISTRIBUTION OF THE GERMAN CAVALRY (10a).

Commencing from the right, the 3rd Cavalry Division, with head-quarters at Labach, covered the right flank of the First Army with 5 regiments, patrolling the Prims, communicating with the garrison of Saarlouis, and watching the course of the Saar as far as Bouss.

The 5th Cavalry Division had its head-quarters at Heusweiler.

The 11th Brigade, patrolled the Saar from Bouss to Volklingen, $3\frac{1}{2}$ miles.

The 13th Brigade, patrolled the Saar from Volklingen to St. Johann, $7\frac{1}{4}$ miles.

Four regiments appear to have covered the front; 2 were kept in reserve.

The 6th Cavalry Division had its head-quarters at Rohrbach.

The 14th Brigade, 3 regiments, { Extended from St.
 Johann to Blies-
 brucken, $10\frac{1}{2}$ miles.

The 15th Brigade, 2 regiments,

The 12th Brigade of the 5th Cavalry Division, 5 regiments, had its head-quarters at Einod, and secured the left flank of the Second Army, patrolling from Bliesbrucken to the neighbourhood of Bitsche, $10\frac{1}{2}$ miles; whilst the 13th Dragoons at Bliescastel maintained connection with the right wing of the Crown Prince. 5th Dragoons at Pirmasens.

Thus 92 squadrons covered front and flank from Labach to beyond Pirmasens, a distance of 50 miles, giving 230 sabres to the mile.

RECONNAISSANCES OF THE 5th & 6th CAVALRY DIVISIONS.

During the night of the 5th, strong detachments of the 12th, 14th, and 15th Brigades pushed forward as far as the Saarguemund-Bitsche Railway, and destroyed the line in several places. They also discovered that the enemy had broken up his camp on the Blies River at Habkirchen, north-east of Saarguemund.

At the same time, a patrol of the 14th Brigade crossed the bridges between St. Johann and Saarbrücken, and drew the fire of the French outposts.

It was reported that troops had entrained at Forbach and at Morsbach.

At dawn on the 6th, the vedettes of the 17th Hussars, 13th Brigade, posted on the Lebach-St. Johann Road, observed that the Saarbrücken Ridge had been abandoned, and a squadron was sent forward through the town.

Reinforced by a troop of the 6th Cuirassiers, 14th Brigade, it crossed the ridge and descended to the valley by the Forbach Road; but between Drathzug Farm and the Spichenen Heights came into collision with hostile troops, and was driven back. The strength of the French was estimated at two battalions, a squadron, and a battery. No other troops nor camps were visible; and it was concluded somewhat hastily, for the country in advance was screened by woods and rising ground, that this detachment was merely a rear-guard covering the entraining of Frossard's corps at Forbach.

The 19th Dragoons, 11th Brigade, crossed the Saar by the Volklingen Bridge at an early hour. Leaving a squadron to protect the left at Ludweiler, the officer in command pushed on with the remainder to Ham-sous-Varberg, 8 miles further south and $10\frac{1}{2}$ miles from the river. East of this village his scouts observed a body of French cavalry, covering the eastward march of an infantry column upon Guerting, and a large camp was descried at St. Avoird. The enemy deployed four battalions and two squadrons, but made no attempt to follow the dragoons as they fell back.

About 8 a.m., detachments of the 11th Hussars, 13th Brigade, also crossed at Volklingen. A troop reached

Gersweiler, and from this point the French forces were seen returning from the Saarbrücken Ridge (probably cavalry retreating from reconnaissance), and the existence of a camp near Stiring-Wendel was discovered. Another troop advanced through Schoneck towards the northern border of the Saarbrücken Forest, and between 10 and 11 o'clock were fired upon by hostile infantry. The commander of the regiment proceeded to Ludweiler, and from a hill in the neighbourhood caught sight of a camp near Forbach, and observed troops in motion on the Forbach-St. Avold Road. Patrols were sent forward to Carlsbrunn and St. Nicholas, 4 miles to the front; and at 11.15 a.m., a squadron was despatched from the main body at Volkingen to Saarbrücken, 7 miles distant.

Lieut.-General Von Rheinbaben, accompanied by two squadrons of the 14th Brigade, had, probably in consequence of the reports received from the 17th Hussars and 6th Cuirassiers, proceeded to the front at an early hour; and at 10.30 a.m. his troopers surmounted the Drill-ground Hill under a brisk artillery fire from the Rotherberg. In addition to the guns, a few foot soldiers were seen upon the spur; and small parties of infantry and cavalry were observed in the Forbach Valley. Patrols were at once sent forward, but were quickly driven in by the French guns. Towards 11 a.m. the following telegram was sent to Prince Frederick Charles:—

“The French occupy the Spiecheren Heights with
“infantry and artillery: they are in the act
“of withdrawing.”

But very shortly afterwards the French battalions began to take up positions for battle and a second telegram was despatched:—

“Hostile lines are deploying on the heights this
“side of Forbach. Advanced guard of 14th
“Division has arrived at Saarbrücken to
“occupy the town.”

These messages were received by the Prince at Homburg, about mid-day.

In addition to the reconnaissances of the cavalry, Lieut.-General Von Goeben, commanding VIII Army Corps, had

left his troops as they began their morning march, and riding forward to Saarbrücken, sixteen miles to the front, did not quit the ridge beyond until 10 o'clock.

Major-General Von Döring, commanding 9th Brigade, 5th Division, who had also visited the heights whilst the day was young between 9 and 10, shortly after the first cavalry reconnaissance had been pushed back by the French outposts, observed columns of infantry advancing from Forbach, and disappearing from view behind the wooded heights which stand above that town.

Except in the case of the last-mentioned general, an impression that the French were retiring at all points appears to have taken strong hold on the minds of the German leaders. But, if we compare the evidence before them with the actual facts, we shall learn how difficult it is to escape erroneous deductions even when ample information is forthcoming.

The circumstances which seemed to point conclusively to a retreat of the whole French force may be thus recapitulated :—

1. On the 2nd of August, the cavalry attached to the First Army, and the patrols sent out from the fortress of Saarlouis, had discovered that the number of the enemy in the neighbourhood of Thionville had decreased; and on the following days had reported that a general movement in a south-easterly direction was in progress.

2. On the 4th and 5th, patrols of Redern's brigade of the 5th Cavalry Division had crossed the Saar and penetrated to Emmersweiler, within 2 miles of Forbach. On both days troops and baggage were seen proceeding by road and rail in a southerly direction towards St. Avold.

3. Saarbrücken had been abandoned, and the ridge above, commanding the passage of the river and the roads issuing from the Kollerthaler Forest, was not even held by a line of outposts.

4. The hostile squadrons everywhere shunned contact with the German troopers, falling back whenever they were met with, and deliberately avoiding the risk of an engagement.

5. Only a small force of infantry and a few guns were

visible from the Saarbrücken Ridge, having all the appearance of a rear-guard.

6. The situation of the hostile armies, if correctly appreciated, left but one course open to the French. Far superior forces were massing against either wing of their extended line; the sudden blow at Weissenburg, in French territory, must have revealed to them that the Germans were on the point of assuming the offensive; and the only means by which defeat in detail could be avoided, was by concentrating rapidly in some central position. Concentration can only be effected out of reach of the enemy, and retreat was therefore necessary.

7. The fact that the bridges across the Saar, the railways and the telegraph beyond, had been left intact, was, fairly enough, considered an indication of sudden change of purpose and hasty retreat, consequent on the news of Weissenburg. This impression was heightened by the burning of the St. Johann railway station on the evening of the 5th.

Now, what was the truth?

1. The 4th Corps d'Armée had certainly quitted the Thionville district; but this movement had commenced before the action of Saarbrücken, and had been ordered by Napoleon with a view to the closer concentration of his forces on the frontier.

2. The troops seen in motion on the road and railway between Forbach and St. Avold formed part of Moutaudon's Division, which Bazaine had ordered to fall back to the latter town upon the 4th.

3. Frossard's intention, in abandoning Saarbrücken and its ridge, was merely to seek a stronger and less exposed position, and to draw his divisions together *in readiness* for retreat upon St. Avold, an operation which the instructions he had received on the 5th led him to anticipate.

4. The inaction of the French cavalry was the result of ignorance of the art of war, of indifferent training, and of a want of initiative on the part of their commanders.

5. Whether the peril of his army was realized by Napoleon we have no knowledge; but, as already recorded, he had no immediate intention of ordering a general retreat and rearward concentration.

6. The burning of the railway station had been purely accidental.

7. The evacuation of the Saarbrücken Ridge was a tactical error on Frossard's part, as was also the non-destruction of the bridges.

It will be observed that the discoveries made by the patrols who penetrated to the neighbourhood of St. Avold and scoured the woods on the left flank of the French positions on the morning of the 6th, have not been enumerated amongst the items of intelligence at the command of the German generals, for it is improbable that their reports as to existence of large camps at various points had been received before the battle began. And it must be carefully noted that to the Spicheren Plateau, screened as it was by dense and lofty woods, or to the Forbach Valley, blocked by the Stiring Copse, no scouting party had penetrated. When Rheinbaben, therefore, telegraphed to Prince Frederick Charles that the French were in the act of withdrawing, more than half the terrain which stretched before him had not yet been explored. It would have been well had he endeavoured to gain further information and had he couched his report in these terms:—"The enemy has evacuated the Saarbrücken Ridge. Only a small force is visible. They appear to be retiring, but neither the heights nor the woods beyond the valley have yet been examined."

10—11 A.M.

ACTION OF THE 14TH INFANTRY DIVISION.

Before the head of the 14th Division reached the village of Guichenbach, 7 miles from Saarbrücken, its commander, Lieut.-General Von Kamecke, learnt, from the orderlies of the 17th Hussars, on their way to the Head-Quarters of the First Army, that the French had withdrawn from the ridge above the Saar (11).

Von Kamecke passed on this intelligence to General Von Zastrow, commanding VII Army Corps, who was then approaching Dilsburg, 12 miles in rear; and, at the same time, asked permission to seize the ridge, in order to anticipate the French should they attempt to re-occupy the position,

and thereby to secure the passage of the river. Von Zastrow replied that he might act on his own judgment, and at once reported his decision to Von Steinmetz.

The advanced guard had meanwhile reached Guichenbach. The morning was still cool, and the march had scarcely exceeded 6 miles; Von Kamecke, therefore, ordered his troops to push forward without delay to St. Johann, to cross the bridges, and to form a line of outposts on the ridge. 9/39 had been already sent to Neudorf, *via* Rockenhausen, in order to maintain communication with the 13th Division.

As the division neared the town, it was met by General Von Goeben, riding northward. A short conference took place, and Von Kamecke entered Saarbrücken, fortified by the assurance that, if the French turned back upon him, the 16th Division would come to his assistance. The advanced guard of this division had started from Schiffweiler, 16 miles distant from Saarbrücken, shortly after 5 o'clock; but, as the troops had already completed their day's march, and were distributed in cantonments, they could scarcely arrive before 3 o'clock. The Prussian system of quartering troops in farms and villages, often several miles apart, renders the process of forming up a long one. Further help was also secured. The commander of the 9th Brigade, Von Döring, as already recorded, had visited Saarbrücken and had been made aware of the projected advance of the 14th Division to the ridge. Mistrusting the appearance of affairs at the front, he had already sent a message to his troops to march to the Saar; and had at the same time reported to the officer commanding the 5th Division the result of his reconnaissance and the orders he had given. It is improbable that he neglected to communicate with Von Kamecke; and it may, therefore, be taken for granted that the latter counted also on the support of the 9th Brigade, the van-guard of which might be expected to reach Saarbrücken between 3 and 4 o'clock.

Of the independent action of these various officers it need only be said that it was in perfect accordance with the rules of war, showing a lively appreciation of the importance of mutual support, and a prudent apprehension of wasting time. "In war," said Napoleon, "time is counted by minutes, not by hours."

OCCUPATION OF THE SAARBRUCKEN RIDGE BY THE
ADVANCED GUARD OF THE 14TH DIVISION.

The van of the advanced guard reached St. Johann at 11 o'clock. The Saar was crossed by the lower bridge, and at 11.30, III/39 defiled upon the Drill-ground Hill, followed by Von Kamecke and his staff.

Beneath them, bathed in glowing sunshine, lay the St. Arnual Valley, a few Prussian horsemen riding to and fro across the open fields.* Beyond, were the hanging woods of the Spicheren Heights; directly in front the red escarpments of the Rotherberg; and further to the right the Forbach Valley, narrowed to a simple clearing by the Stiring Copse. Far over the Rotherberg rose the bare outline of a distant ridge, giving promise of more open ground, but to right, and left, and front, as far as the eye could range, except where the valleys and the red spur intervened, the face of the whole country was covered with a sea of foliage. On the crest of the Rotherberg, where the shadows of the trees lay dark and still, some companies of French infantry were visible. From the saddle in rear, a battery of guns played briskly on the Saarbrucken Ridge; and small bodies of troops were observed in the Forbach Valley (12).

Nothing betokened the presence of a considerable force; and, although nearly 28,000 men and 90 guns were in the immediate neighbourhood, they were so effectually concealed, that 7,000 infantry and 8 guns was the highest estimate of the Prussian scouts. But surely the scene before him was such as to impress upon a commander, viewing it as did Von Kamecke, the necessity of thorough reconnaissance ere he threw his battalions into the recesses of those far-reaching woods.

The shells fell fast upon the drill-ground as the battery of the advanced guard clattered up the road, wheeled to the right past the Bellevue Tavern, and unlimbered west of the highway on the southern slope. The range was little over 2,000 yards; and although it was estimated that eight French guns were in action, neither man nor horse was injured.

The two remaining battalions of the 39th Fusiliers, losing men from the hostile fire as they ascended the reverse slope of

* See sketch, page 123.

the ridge, had meanwhile taken post behind the northern crest of the Reppertsberg; and whilst gun answered gun across the valley, the following orders were sent to the main-body of the advanced guard :—

27th Brigade	{	II/74 to cross the viaduct and to occupy the railway-cutting at German Mill. I & F / 74 to cross by the lower bridge, and to join the 39th.
--------------	---	--

The main-body of the division, together with the three batteries, was directed to halt on the slopes below the Kollerthaler Forest.

The security of the bridges was thus effectually provided for; and to dispose his advanced guard as a line of outposts would have doubtless been Von Kamecke's next step, had not the presence of the French artillery on the Rotherberg, and the reports of the cavalry scouts, turned his thoughts in a new direction.

The commander of the cavalry divisions had been for some time present on the ground when Von Kamecke arrived. The two squadrons which had accompanied him were posted in the Elrental, the gully at the foot of the Drill-ground Hill, where those who fell at Spicheren now lie. Patrols had been pushed forward towards the Forbach Valley, and, although they had been driven back by the French picquets, Von Rheinbaben was now able to report that besides the guns upon the Rotherberg, the presence of at least three regiments of infantry and some squadrons of cavalry had been detected. Still, the deployment of the Prussian battalions on the Drill-ground Hill and Reppertsberg had evoked no corresponding activity upon the French. In the woods beyond the St. Arnual Valley was no sign of life; and it seemed to the two Prussian generals, already convinced that the enemy were in retreat, that the slender force before them was but a rear-guard covering the entraining of the 2nd Corps at Forbach (13).

But so long as it held the Rotherberg, this hostile detachment commanded the length and breadth of the St. Arnual Valley and of the Saarbrücken Ridge; and, as the casualties in I and II/39 already proved, it had it in its power not

only to inflict heavy loss upon the German troops as they ascended the road, but to make the occupation of the crest a somewhat costly proceeding. For this reason, Von Kamecke, at 12 o'clock, determined to attack.

The possession of the Rotherberg was certainly essential to the occupants of the Saabrucken Ridge ; and, had it been the fact that but three regiments confronted his 10,750 bayonets, his decision would have been a sound one. But as the event proved, it was too hastily conceived.

Von Rheinbaben could have told him that, in consequence of the natural difficulties, only a very partial reconnaissance had been effected. The Spicheren Plateau, a strong defensive position, and spacious enough to contain the whole French army, was effectually concealed by the woods which clothed its rugged slopes and lofty crest ; and the circumstance that only a small force of guns and infantry were visible on the Rotherberg, was no sure indication that the belt of forest and the rolling downs in rear were untenanted. The cavalry patrols had not been able to pass beyond the mouth of the St. Arnual Valley ; and, although a narrow strip of the open ground which ascends gradually towards Forbach was under observation, neither the Stiring Copse, the village of Stiring Wendel beyond, nor the great forest to the right had been examined. It was not impossible that the apparent weakness and inaction of the enemy was but a lure. Modern warfare, waged by skilful leaders, has its instances of snare and ambush. The situation assuredly demanded an extended and careful reconnaissance ; and the secrets of the plateau and the forest should have been laid bare before the battalions of the 14th Division were ordered to advance.

If, on the other hand, Von Kamecke was not absolutely convinced that the French were retreating, but, counting on strong and speedy support, resolved, nevertheless, to accept the risk of an engagement, he took upon himself a perilous responsibility. A commander who commits his troops to action cannot withdraw without heavy loss in men and in *moral* from the deadly zone of fire which girds a modern battle-field. And, therefore, when the challenger and his adversary have grappled, the distant divisions hurry forward ; and the knowledge that only a vigorous and

combined effort can extricate their comrades, that when battle has been joined it must be fought out to the end, draws every leader within hearing of the cannon-thunder to the field. Thus, whole armies become involved in battle, which at the outset was but an isolated engagement of the advanced guards.

But battle is the end of the strategy of the Commander-in-Chief. For this he lays his plans; for this the marches and manœuvres of his Army Corps are directed; and the battle he proposes is one in which the advantage of position and of numbers shall lie with him, one which will perhaps lead to successes far more important than the mere overthrow of the hostile forces. If a subordinate leader, therefore, by a too precipitate attack, involve the mass of the army in a premature and unforeseen engagement, he may utterly destroy the combinations of his superior; compelling him to fight on ground where superiority of position and of numbers is with the enemy, and where the results of victory may be barren, of defeat disastrous. So, on the 9th September, 1882, the 1st Division of the English army repulsed the attack of the Egyptians on Kassassin, and followed them to within 5,000 yards of the camp they had so laboriously entrenched. Had the divisional commander ordered a resolute pursuit, "there is every possibility," says the Official History, "that it might have given us—though with considerable loss—possession of Tel-el-Kebir itself that day. But such a success would have been useless, only a fraction of the army would have been available to follow up the victory. The cavalry could not have advanced directly upon Cairo. Tel-el-Kebir, the desert fortification, might possibly have fallen and the troops therein dispersed; but the decisive battle of Tel-el-Kebir would not have been fought, the army would not have been placed upon the point of junction of the various detached portions of the Egyptian army. Cairo would not have fallen as a consequence of this premature blow, and it would have most probably been burnt before we could have reached it."

The commander of an advanced guard that cannot rapidly communicate with superior authority has often no easy part to play. He must be resolute and daring; a small rear-

guard or detachment must not be permitted to delay his march ; he must be ready to act on his own initiative and to accept weighty responsibility ; and, if the situation demand it, as at Vionville, to attack an army without hesitation. But he must temper audacity with prudence ; his reconnaissances must be thorough ; he must be quick in his movements, but suspicious of ambush. Above all, he must never run the risk of involving the mass of the army in battle, unless it is exceedingly clear that a golden opportunity would be lost by holding back.

The direct approaches to the heights of Spicheren were blocked by the position of the French upon the Rotherberg, but the plateau was not inaccessible. A track led from St. Arnual through the climbing forest which overlooked the angle of the Saar ; and further to the south, to the right rear of the French position, the Sinnbach Ravine opened a road to the higher ground.

At the same time, the cavalry were working in a strange country, of which their maps described only the general features, and it would have taken time to find a passage through the woods. Had the 7th Uhlans and the 1st Battalion of the 40th Fusiliers, the original garrison of Saarbrücken, been retained in the district they had so thoroughly patrolled, men who knew every path and clearing of the forest would have been at hand, and ample information as to the strength of the hostile force upon the plateau have been rapidly obtained. Unfortunately, a somewhat over-scrupulous regard for symmetry of organization had withdrawn these troops to the rear with their own, the 16th Division. Moreover, and this is a point worth close attention, a large force of cavalry had, since the early morning, been scouring the woods of the Saarbrücken Forest, endeavouring to obtain information of the movements and positions of the enemy between Forbach and St. Avold. Von Rheinbaben, to whom as commander of both cavalry divisions, all information would be brought, was at Von Kamecke's side.

Of this force, the patrols of the 11th Hussars, which had left Volklingen about 8 o'clock, had observed hostile camps both at Forbach and Stiring Wendel. Had Von Kamecke known that these camps were still standing at 9 or 10

o'clock, he would have doubtless modified his opinion that a general retreat was in progress, for a rear-guard must always remove its impedimenta if a withdrawal is imminent. But at 12 o'clock, this intelligence had not come to hand. A squadron of the Hussar Regiment, probably carrying the reports to Von Rheinbaben, left Volklingen at 11.15. But Volklingen was 7 miles distant from Saarbrücken, and before the squadron arrived, the 14th Division was irretrievably committed to the attack.

As we are ignorant of the time when the French camps were first discovered by the Hussars, it is impossible to say whether the intelligence might have been more rapidly conveyed to General Von Rheinbaben; but it may safely be asserted that Von Kamecke was wrong in advancing before these reports came in; and we may also derive a lesson as to the absolute necessity of instantly transmitting the information obtained by the advanced scouts.

It is a curious circumstance that the Prussian cavalry, although they showed no hesitation in striking into the extensive forests on the left flank of the French position, should have altogether neglected the roads running on either bank of the Saar to Saarguemund. The road on the left bank, leading through St. Arnual, was undoubtedly a dangerous defile, with the river on one hand and heavily wooded heights upon the other; but, giving access as it did, by the paths which struck it, to the interior of the plateau, its exploration was well worth risking a patrol. It is not out of place to remark that a few mounted infantry, who could have left their horses and scouted through the thickest woods, would have rendered invaluable assistance. Their equipment would have made it exceedingly difficult for the cavalry troopers to work dismounted amongst the thick undergrowth of the steep hill-sides.

When Von Kamecke decided to attack, the Spicheren Plateau, as already stated, had not yet been examined; little of the ground occupied by the enemy was under observation, and the country favoured the concealment of large bodies of troops.

If the French had not yet withdrawn from the district, a general engagement might possibly be brought about. But

the 14th Division was far in advance, and it was only prudent to suppose that Von Moltke, greatly superior in numbers, would prefer to deal with the French when he had concentrated his forces, examined their position and framed his own plan of battle.

If, again, as the Staff History relates, Von Kamecke's idea in attacking was merely to clear the Rotherberg, he ran unnecessary risk in committing his infantry to the operation. Were the French only present in small force, his four divisional batteries would have quickly rendered the spur untenable. In sending his infantry forward, before the reports as to the smallness of the enemy's numbers were confirmed, he acted with undue precipitation.

Supports were on the march, but still some hours distant, the head of the 5th Division $3\frac{1}{4}$ hours' march, of the 16th, 4 hours'; and, by hurling his isolated division on what might prove, not the rear-guard, but the outposts of a superior force—and, so long as the district had not been thoroughly reconnoitred, that possibility should have been held in view—there was every prospect of his battalions being crushed before a single bayonet came up to their assistance.

Little time would have been lost by delay. Whilst the guns assailed the Rotherberg, the infantry might have been placed in positions favourable for an immediate advance; and, in the mean time, further instructions might have been demanded from Von Zastrow, who was at Dilsburg, only seven miles in rear. Lastly, the commander of the 14th Division might have had recourse to a reconnoissance in force. Whilst the artillery engaged the guns upon the Rotherberg; a couple of battalions, sent out on either flank, into the Gifert Wood and the Stiring Copse, would have sufficed to develop the enemy's strength.

Students of the campaign may remember that the Staff History (page 252), speaks of "Prince Frederick Charles' orders (received by Rheinbaben), to keep the foe at the sword's point," and declares that "the independent offensive of the 14th Division was perfectly in accordance with the spirit of the German generalship, which directed every effort to hang closely on the adversary."

Now, in the first place, Prince Frederick Charles' orders were for the cavalry, and for the cavalry alone, to keep close touch of the retiring enemy. Not a word was said of an infantry advance. And secondly, whilst it is perfectly true that Von Kamecke's independent offensive was in unison with the spirit of the German generalship, it is no less certain that his neglect to reconnoitre, and his precipitate attack, were by no means in unison with the spirit of sound tactics.

There were other circumstances, also, which must not pass unobserved. Although the Staff History states that his intention in attacking was to clear the Rotherberg, it is hinted in the concluding remarks that the idea of holding the enemy fast upon the Saar, or at least of keeping the touch, was uppermost in his mind. Now it was still possible, on the morning of the 6th, that the widely separated wings of the Army of the Rhine might effect a junction by retreating from Alsace and Lorraine on a central point in the interior of France. But the propriety of a single divisional leader taking upon himself the responsibility of deciding as to where and how this junction should be prevented, may be strongly questioned.

There can be no question, however, of the propriety of making every effort to keep the touch; and, in order to open the way to the cavalry, action was imperative. But no necessity, however pressing, absolves a general from neglecting ordinary precautions. And the first precaution taken should have been to ascertain whether the French were retiring or not.

At the same time the moral factors of the situation must not be forgotten. The urgency of a dashing offensive had been impressed upon the Prussian army; and secondly, on the very ridge whereon Von Kamecke stood, 1,200 Prussian riflemen had held 50,000 French at bay for sixteen days. Was he to be imposed on in like manner?

One last excuse, and it is doubtless the true one, may be made for him, and it is that he trusted to the cavalry reports; and, that when he attacked, he did so in the belief that the French force before him was but a weak rear-guard. His conduct may be further criticised by the light of the orders given by Prince Frederick Charles, Von Zastrow, and

Von Alvensleben. The Head-Quarters of the Second Army had been informed at an early hour of the evacuation of the Spicheren Ridge. As this seemed to point to the retreat of the French, "it was judged expedient to seize the passage of the Saar, and without inducing a premature offensive, to hang closely on the enemy. To this end the Prince ordered both cavalry divisions to keep the touch of the retreating foe; for the 5th Infantry Division to advance to Saarbrücken, and to move its advanced guard to Forbach the next day."

Von Zastrow, also, when the news of Frossard's withdrawal reached him, resolved to push forward his whole corps to the Saar. But the 14th Division was ordered merely to occupy the Saarbrücken Ridge with a reinforced advanced guard, and to patrol towards Forbach.

Von Alvensleben, commanding III Army Corps, on ascertaining the enemy's retreat from Saarbrücken, ordered the 5th Division to occupy the place with a vanguard, and the main-body to advance within four miles of it.

Lastly, a clue as to what Von Moltke would have advised under the circumstances may be gathered from his action on the days immediately following the twin victories of Spicheren and Woerth. The enemy's right wing, under Bazaine, was reported, on the 7th August, to be concentrated at Boulay and St. Avold; but no forward movement was allowed until the Second Army had reached the Saar, although three days elapsed before this operation was completed. The Chief of the Staff's purpose is evident throughout: to meet the French army with superior numbers, to leave to the cavalry the task of keeping the touch, and to avoid premature collision.

FRENCH DISPOSITIONS.

On the morning of the 6th, the three divisions of the 2nd Corps were encamped as follows:—

1st Division,	} Jolivet's Brigade, N.E. of Stiring Wendel.

2nd Division	}	Oetingen, on the plateau, 3 miles south of Spicheren.
3rd Division		Spicheren.

No preparations for a further retreat had as yet been made, although Frossard had been warned on the previous day that such an operation might have to be carried out at any moment. Moreover, he had received sufficient information from spies or the country people, to make him aware that he was threatened by a force far larger than his own; and, shortly after daybreak, the following telegram reached him from Le Boeuf:—

“Be prepared for a serious attack, which may possibly take place to-day. Remain at your post, and do not come to meet the Emperor.”

The last sentence referring to an order received during the night, summoning the general to take part in a Council of War at St. Avold.

In consequence of this warning, he immediately ordered intrenchments to be thrown up at certain commanding points. But his preparations went no further. Nothing was done in the way of surveying the position, or of arranging in what manner the troops were to be drawn up for its defence. Nor was any provision made for a further retreat, although instructions had been received on the preceding day (see page 72) that such an operation would eventually have to be carried out. It is true that Le Boeuf's orders threw no light whatever on the ulterior intentions of the Emperor, and that Frossard was quite in the dark as to the meaning of the proposed retrograde movement on St. Avold. But this ignorance by no means absolved him from holding his troops in readiness to fight a rear-guard action. He was aware that sooner or later he would be ordered back, and that he might be vigorously attacked before receiving instructions to do so. This knowledge should have been sufficient; and he should have kept in mind the possibility of his having to withdraw his troops in the face of the enemy.

Neither Frossard, Le Boeuf, nor Bazaine, appear to have given a single thought as to what was to be done if the Prussians, known to be in large force in the vicinity, and on the point of assuming the offensive, were suddenly to cross the river at Saarbrücken and attack the 2nd Corps; although it was obvious that the road and railway passing through that town were the most advantageous lines of invasion.

The command of the left wing had, it is true, been committed to Bazaine. But on the morning of the 6th, he had scarcely had sufficient time to take up the reins of command. He had no staff except that belonging to his own Army Corps, and little information as to the Emperor's plans.

And although the marshal was in close communication by telegraph with the commander of the 2nd Corps, the dangerous position of the latter demanded something more than merely waiting for orders. Events develop with such rapidity in war, and instructions so frequently miscarry, that every subordinate, when the enemy is near at hand, should act on Napoleon's maxim, and "ask himself several times a day, 'what shall I do if I am attacked in front, flank, or rear?'" and frame his plans accordingly.

The dispositions of the French left wing were such that a speedy concentration in a central position was perfectly feasible. The disposition of the three divisions of the 2nd Corps permitted either an orderly retreat, or the occupation of a position for battle in front of Spicheren and Forbach. But the possibility of a sudden advance on the part of the enemy had not been considered, and the sequel shows how the difficulties and delays of communication in the field often make it impossible to put into quick execution plans which are improvised on the spur of the moment.

Bazaine, who appears to have appreciated the situation correctly on the morning of the 6th, suggested to Frossard that if the Prussians attacked him in force, he should retire on Calenbronn. That he did not insist on this measure or give an absolute order, probably arose from the instructions of the Emperor, limiting his command to "military operations only." As the Commander-in-Chief still dictated, as we shall

hear, the disposition of the divisions belonging to Bazaine's own Corps d'Armée, it was but natural that the marshal should feel diffident about giving explicit orders to another corps.

It is on Napoleon and Le Boeuf that the blame must fall; and it is instructive to compare the directions issued by Von Moltke to the First and Second Armies when it was still possible that the French might advance into the Palatinate. The combination of the two armies on the defensive was carefully provided for, a position selected, and nothing left to chance.

At 9.10 a.m., when the Prussian cavalry first crossed the Saarbrücken Ridge, and came into collision with his outposts, Frossard telegraphed to Bazaine at St. Avold :—

"I hear cannon firing at the front, and I am about
 "to proceed thither. Would it not be well if
 "Montandon's Division were to send a brigade
 "to Grossbliederstroff, and Decaen's Division
 "to advance to Merlebach and Rossbrück."

About 10 a.m. he again communicated with his chief :—

"The enemy has sent strong reconnoitring parties
 "of cavalry and infantry* down from the
 "Saarbrücken ridge, but as yet he has made
 "no sign of attack."

And at 10.40 a.m. :—

"I am advised that the enemy has shown himself
 "at Rossbrück and Merlebach. You ought
 "to have forces on that side."

At 11.15 came the reply to these despatches :—

"In accordance with the Emperor's order, I have
 "posted Castagny's and Metman's Divisions
 "at Puttelange and Marienthal. I have no
 "one at Rossbrück or Merlebach. I am
 "sending a Dragoon Brigade in that direc-
 "tion."

"Although I have but a small force present to
 "protect St. Avold, I have ordered Metman's
 "Division to Marcherens and Bening, Castagny's
 "to Farschwiller and Theding. It appears

* No infantry had as yet crossed the Saar.

“to me that your division at Oetingen can send a brigade to Morsbach to watch the Saarlouis Road. If the affair is really serious, you will do well to retire on Calenbronn.”

Bazaine, it appears, had already received an intimation from Head-Quarters that the 2nd Corps was in jeopardy; but, besides Frossard's information, as to Rossbruck and Merlebach, reports had reached him from Saarguemund upon his right, and from Guerting on his left, of the presence of the enemy's cavalry; and, apprehensive of attack, he was for a long time undecided as to where the stroke would fall. Neither he, nor a single one of his divisional generals, dreamt of endeavouring to clear up the situation by pushing a strong cavalry detachment through the cordon of the hostile scouts, in the supposed direction of the Prussian main-body. It would have been no difficult matter to ascertain the truth. In the neighbourhood of Saarguemund were a few squadrons of the 5th Prussian Cavalry Division; but the nearest infantry was the 10th Brigade, on the road to St. Ingbert, not less than 15 miles in rear; whilst the force which caused the alarm at Guerting, and induced the marshal to suggest that Frossard should send a brigade from Oetingen to Morsbach, was a troop or two of the 19th Hussars, scouting nearly twenty miles ahead of the 13th Infantry Division. The marshal himself, reconnoitring the Saarlouis Road, had fallen in with and had been fired upon by this detachment. The Prussians quickly fell back, but Bazaine took no measures to have them followed up, and contented himself with requesting Frossard to detach a large force to watch the road.

At the hour the above instructions reached Frossard (11.15 a.m.) only a small force of German cavalry had as yet crossed the Saar. Half-an-hour later guns and infantry appeared upon the ridge, but in no great strength. Retreat on Calenbronn was perfectly feasible; and, perhaps, had not Forbach held large stores of provisions and matériel, he would have executed such a movement.

But counting, on the strength of Bazaine's telegram, on the support of Metman's and Castagny's Divisions at least,

and confident in the strength of his position, he resolved to stand his ground. It is difficult to blame him. A retreat would have lost the magazines at Forbach, and have affected the morale of his troops. Bazaine's despatch was vague; and he must be something more or less than a gallant soldier who retires, without a trial of strength, before an enemy who has not yet proved his superiority. "It would certainly have been better," he writes, "to have brought Vergé's Division on to the plateau, and to have left in the Forbach Valley merely posts of observation; but it was necessary to protect the railway station, the terminus of our railway communication, which held our supplies and stores."

He saw clearly enough the disadvantage of the position he would be compelled to occupy in the event of battle, half on the height and half on the plain; but he was prevented from taking up a stronger defensive line by the faulty situation of the magazines. This location was doubtless favourable enough if the army had invaded Germany. But prudence dictates that the possibility of a retreat or of a defensive should never be lost sight of, and the supply *dépôt* should have been established further to the rear. Had Frossard been untrammelled by the necessity of providing for the security of the magazine, he would, in any case, have occupied a far stronger and more concentrated position; or, had he had the wisdom to accept Bazaine's suggestion, have been able to withdraw to Calenbronn.

At the same time, had he left but a small force in Forbach, and occupied the plateau in greater strength, he would have been secure enough. But he was apprehensive of attack from Saarlouis, and had neglected to reconnoitre in this direction.

The evacuation of the Saarbrücken Ridge by the 2nd and 3rd Divisions of the 2nd Corps d'Armée was begun at 5 o'clock on the evening of the 5th.

It was carried out slowly, and with great precaution, under a heavy storm of rain. Some of the troops did not

reach their new encampments until day-break* ; a circumstance which probably had its due effect on their conduct in the battle.

It is impossible to defend Frossard's conduct in relinquishing a position which so effectually commanded the passage of the river, when he had every expectation of an attempt to force the passage being made. Had he occupied the Saarbrücken Ridge with a strong detachment, he would certainly have delayed the Prussian attack for many hours ; have gained much needed time for the concentration of the French forces, for the removal of the stores at Forbach ; and, had a withdrawal to Calenbronn been ordered, have secured his own retreat from the position whereon he now found himself, and which, whatever may have been his intention in withdrawing to it, he was compelled to defend.

THE FRENCH POSITION.

The Spicheren Plateau is a salient of the great table-land of Lorraine, rising squarely between the valley of the Saar upon the one hand and of Forbach on the other ; separated from the Saarbrücken Ridge by the St. Arnual Valley, the breadth of which amounts on the east, near St. Arnual Village, to 1,000 ; on the west, between the Rotherberg and Reppertsberg, to quite 2,000 paces. The slopes of the plateau, save at the left-hand corner, where the Rotherberg juts out to the northward, are densely wooded, and on every side so steep and abrupt that even an unencumbered man finds it no light task to scale them. Beneath the oaks and beeches which clothe the cliffs from base to brow, the undergrowth flourishes in such luxuriance, as to present peculiar difficulties to the movements of a body of soldiers, heavily equipped, and bound to maintain formation. The crest of the heights is about 300 feet above the valley.

The Rotherberg, viewed from the Saarbrücken Ridge, appears an insignificant height, and easy of ascent. But from the valley at the foot, where the verge of the main plateau is no longer visible, the famous spur stands out a

* During this march, the 8th Regiment was joined at the Golden Bremm by 400 reservists from the dépôt.

formidable hill, the crest about 150 feet above the level, East, west, and north the fall is steep, and where, at the date of the battle, the red rock cropped out from the scarped hill side, it was sheer and precipitous. The face of the acclivity was no smooth and uniform incline; and although little plots of cultivation, cut into narrow terraces, and holding often a clump of cherry trees, formed a rough and broken stairway, and, in no place, save where the cliff is quarried, did the gradient exceed 30 degrees, the surmounting of the salient was by no means less difficult than that of the wooded slopes on either hand. The surface of the spur, 250 yards in breadth, is bare and undulating, rising gently to the south, and joined to the plateau by a somewhat narrower saddle.

The Spicheren-Saarbrücken Road, which, after crossing the valley from the Nussberg, winds round the eastern shoulder of the spur, supported on a log embankment, was practicable for artillery.

East of the Rotherberg is the Gifert Wood, 1,300 yards in length and 600 broad. Divided from it by a clearing, with a thin belt of timber on the crest, is the Pfaffen Wood; and beyond again, overhanging the river and the village at its feet, the great Parish Wood of St. Arnual. South-west of the Rotherberg, nearly a mile back, and overhanging the Forbach Valley, is the Parish Wood of Spicheren.

THE INTERIOR OF THE PLATEAU.

Standing on the Pfaffenberg, a long green ridge which formed the southern boundary of the battle-field, the surface of the plateau, hedgeless and unobstructed, chequered by the tiny plots and pastures of the peasants, furrowed by two parallel ravines, and framed by heavy timber, sinks gradually away towards the north. To the left front rises a treeless "berg" which takes its name from Forbach. Beyond and behind, a dark screen of foliage, the oaks and beeches of the Spicheren Wood, bound the view. Linked to the Forbacherberg by a narrow ridge, which forms the western part of the plateau and runs across the head of the two transverse ravines, a second hillock of inferior

altitude, the Spicheren Knoll, fills the foreground to the north. Beyond, but hidden by the knoll, is the saddle and the gradual slope to the Rotherberg. Across the knoll, the vista opens out, for the spur below has broken a passage through the forest. In the middle distance is seen the western shoulder of the Saarbrücken Ridge; and, on the far horizon, the slopes beyond the river crowned by the dark outline of the Kollerthaler Forest.

Immediately at the foot of the Pfaffenberg, Spicheren, a compact and well-built village lies 150 feet below us; the tall church tower, and the red roofs of the substantial granaries peering through a screen of orchards. From the north and west the village is well sheltered, for it stands at the head of a deep and narrow gully, the southernmost of the two transverse ravines, sinking sharply from the Forbacherberg to the Saar. Beyond, and parallel to the Pfaffenberg, is an open ridge, 400 paces wide. From the brow of this ridge the border of the forest, which crowns the northern crest of the plateau from the Rotherberg to the Saar, and which on the 6th of August hid the interior of the plateau and the camps of Laveaucoupet's Division from the observation of the Prussians on the Saarbrücken Ridge, is 1,000 paces distant; but between them, like a great dry ditch, is the Simbach Ravine, 500 paces broad and 200 feet in depth, the bottom thickly set with fruit trees. Besides the numerous paths and cart tracks which intersect the plateau in every direction, there are two excellent roads, firm and broad; one, running east and west, passes through Spicheren and its woods, and winds down the heights to Stiring Wendel and Schoneck in the Saarbrücken Forest; the other, already spoken of, leading northward from Spicheren descends the Rotherberg, and striking across the St. Arnual Valley climbs the Saarbrücken Ridge between the Reppertsberg and Nussberg.

West of the Forbacherberg, a long trough-like gully faces north, forming a wide and deep depression in the Spicheren Wood. The spur beyond, 250 yards in breadth, is free from timber, and forcing its way amongst the beeches, opens a view across the Forbach Valley to the Saarbrücken Forest.

Such were the principal features of the ground held by

Laveaucoupet's soldiers, who, if they stood on the western crest, looked down from an altitude of 300 feet upon the left wing in the Forbach Valley ; the rugged face of the plateau effectually preventing inter-communication and observation, and dividing the position into two distinct sections. The Rotherberg, jutting like a bastion from the northern face of the heights, commanded the length and breadth of the valley below, but the faces of the ascent were everywhere so steep and thickly wooded that they could not be swept by fire from the crest. An extensive view over the whole landscape, obstructed only by the Saarbrucken Ridge, is obtained from the spur. From the Pfaffenberg and the Forbacherberg, the Drill-ground Hill, and even the forest beyond the river, can be seen ; and from the Forbacherberg and its northern underfeature the mouth of the Forbach Valley is effectively commanded. But, from the interior of the plateau, even from the Spicheren Knoll, the crest of the Rotherberg is nowhere visible.

THE VALLEY.

The rolling pastures of the re-entrant which lie between the Spicheren Heights and the Saarbrucken Forest, ascend gradually toward Forbach. Here the boundaries converge, and the town stands at the very apex of the valley. Two miles north, the village of Stiring Wendel and the great spur covered by the Spicheren Wood form a barrier across the centre.

Between them creeps the Metz High-road, lined with lofty poplars ; and on this road, where the valley opens out again, stood four buildings which played an important part in the battle to come. Nearest to Stiring Wendel, and fronting the long ravine which drops from the Forbacherberg, is the Baraque Mouton, a substantial homestead, with granary and outbuildings. 400 yards north, to the east of the chaussée are the two houses which bore the sign of the Golden Bremm, surrounded by garden walls, eight feet in height, and shadowed by the foliage of the overhanging wood. Not many paces further north stood the French Toll House.

From the brow of the rising ground, north-west, the Toll House, and looking towards the Drill-ground Hill, two parallel undulations, across which the high-road passes, meet the eye. The first, and lower of the two, fills the foreground from the railway to the Rotherberg, and closes the entrance of the Forbach Valley. This is the Folster Height—270 feet below the crest of the Rotherberg,—and thereon was the German Custom House. 1,200 paces beyond, rise the grassy knolls of the Galgenberg, midway between the Saarbrücken Ridge and the Spicheren Heights, and 240 feet below the crest of the Rotherberg.

Across the centre of the Forbach Valley, runs the Spicheren-Schoneck Road, skirting the mound on which stands the Stiring Foundry.

Stiring Wendel is an industrial village of modern date; the streets straight and regular, the houses compact and strongly built. It is protected on the west by the deep cutting of the railroad. Beyond this cutting are a few houses; and the walls of a large garden form a bastion on this side, as does the foundry on the north.

The foundry, surrounded on two sides, north and east, by a railing made of iron uprights nearly six feet high, was capable, although the buildings were wooden, of protracted defence against riflemen unsupported by artillery. The western side was partially uncovered. Here the railway runs for 100 yards upon the level, but the foundry sheds stand back 50 or 60 yards from the line, and the yard in front was filled with trucks and heaps of slag. At the north-west and south-west corners, the ground sinks sharply. At the former angle, the railway crosses the Spicheren-Schoneck Road by a bridge, which is touched by the railing already mentioned; at the latter it runs through a cutting 40 feet in depth.

Beyond the railway, north-west of the foundry, are a few scattered cottages, which go by the name of Old Stiringen; and, further west, close to the encircling forest, crowning the gentle slope of a long, bare spur, is a group of buildings, tall and black, marking the site of a disused coal-pit.

In front of the foundry, across a little valley, and 600 paces distant to the north, is the Stiring Copse, a grove of

lofty timber, concealing the village and foundry from the Drill-ground Hill. The trees are beeches, of good girth and tall; and, except near the border, there is no young growth or brush to hinder the passage of troops in extended order between their smooth and massive trunks.

The Saarbrücken Forest, extending from the banks of the river to the Kaninchenberg near Forbach, along the entire left flank of the position, is of a different character. Covering a broad tract of country, roads and clearings are not infrequent; but the trees stand close; the undergrowth is dense and tangled; and the task of moving through its dark recesses, except by the paths, is difficult and tedious.

North of the Stiring Copse, and below the slopes of the Folster Height, are the farm buildings of Drathzug, commanded at 1,800 paces from the western shoulder of the Drill-ground Hill.

The ponds along the railroad and at the foot of the Folster Height are shallow, marshy pools, but the first is so wide and treacherous as to form an effective obstacle.

Due west of Forbach and the railway, on the left rear of the position, the Kaninchenberg, a long and narrow ridge, forms a solid barrier across the *débouché* of the Saarlouis end, but is approached by woods on either flank (14).

It was reported by a newspaper correspondent that, when the rumour that an attack on the Spicheren Heights was imminent spread through the French camps, it was welcomed with stern satisfaction by the men. Without doubt, they had good cause for confidence.

The bold projection of the Rotherberg, lifting its red crest high above the open valleys and flanking every direct approach; the steep faces of the plateau, and the woods which hid the interior both from view and fire; the massive village of Stiring Wendel, perfectly protected from bombardment; the open ground which the enemy must traverse in his advance, and the absence of any commanding position for his artillery, rendered the position to all appearances exceedingly strong.

But natural difficulties do not of themselves make a good position. Ground which presents great obstacles to the passage of ordinary wayfarers, or to an army on the march,

is often more favourable to the attack than the defence. This is especially true of positions of which high hills form a part. In 1863, a Confederate army, under General Bragg, drove the Northern army of the Tennessee into Chattanooga; and taking post on the mountains which overlook the town, blockaded the defeated troops for several weeks. On the arrival of Grant, the heights on which the flanks of Bragg's line rested were attacked; Look-out Mountain (2,200 feet high) on the right was carried. On the left but little ground was gained. The Federal general then suddenly changed his plan, and hurled his reserve against the right centre of the enemy's position, a ridge from 500 to 800 feet high. The rifle-pits at the foot of the slope, although covered by abattis, were carried at the first rush; and, with scarcely a pause, the troops dashed up the steep hill-side, swept over a line of trenches half-way up the ascent, and finally drove the Confederates in confusion from their earth-works on the crest.

The occupation of a position in a hilly or rugged country is then, a difficult business. As a Southern Staff Officer remarked, upon visiting Bragg's position above Chattanooga, "It may be a pretty view, but it is a d—d bad prospect;" and if we examine closely into Frossard's procedure at Spicheren, his use or neglect of natural difficulties, his choice of ground for his main line, and the advantages and disadvantages of his selection, we may learn a practical lesson of great value.

The position of the valley need not detain us long.

It may be said that here the homesteads, the Spicheren-Schoneck Road, the centre of the Stiring Copse, and the village of Old Stiringen, including the disused coal pit, was the main line, Stiring Wendel forming the second position or reduct. The position on the plateau is by far the more important, both as presenting greater difficulties to selection, and affording most useful tactical suggestions.

Bearing in mind the peculiar configuration of the heights, the densely wooded slopes, the steep and lofty crest, the broad space of open ground which divided the belt of forest from the commanding ridges north and south of Spicheren it is obvious that there was much room for choice.

(1) The main line might be thrust forward so as to include the lower edge of the Pfaffen and Gifert Woods, and the crest of the Rotherberg, or (2) the crest within the Pfaffen and Gifert Woods, and the crest of the Rotherberg, or (3) might be withdrawn to the ridge north of Spicheren, and Forbacherberg, with the Rotherberg as an advanced post.

In his account of the battle, Frossard himself nowhere indicates on which of the three he decided, and it is exceedingly doubtful if he came to any decision whatever. There are critics, however, who hold that the crest of the plateau and the spur were held merely as an advanced post, but, as will be seen hereafter, the distribution of the French troops during the attack, the conduct of their generals, their strenuous efforts to maintain, and afterwards to retake, the Rotherberg and the woods, and to deny the Prussians a footing on the plateau, proves conclusively that the verge of the heights was the main line.

Deferring criticism for the moment, we will proceed to consider the advantages and disadvantages of this selection.

THE ADVANTAGES.

1. From the Rotherberg, the whole of the ground, over which the enemy must advance after descending the Saarbrücken Ridge, was thoroughly commanded.

2. The approach to the woods on the right, and the entrance to the Forbach Valley on the left, were flanked from the spur.

3. Both flanks were fairly well protected; the right by the Saar, the left by the dense Saarbrücken Forest; and for the latter the foundry and Stiring Wendel Village formed a strong reduct, covered as they were from artillery fire by the Stiring Copse.

4. Lateral communications, the Spicheren-Schoneck and Etzling-Forbach roads, were good. Moreover, the surface of the plateau—except where the gullies intervened—and the unfenced pastures of the Forbach Valley, presented no impediment to the free movement of men and guns.

5. The St. Arnual Valley, severing the Spicheren Heights

and the Saarbrücken Ridge, and extending along the whole front, was open and unobstructed, affording no cover to the assailant, and nowhere of less breadth than 1,000 paces.

6. The Folster Height, which, although far below the crest of the Spicheren Heights, was the only rising ground whence artillery fire could be brought to bear upon the centre of the Forbach Valley, was commanded and flanked at short range from the Rotherberg.

7. The ridge north of Spicheren, with a fair field of view and fire as far as the borders of the forest, 1,200 paces distant, together with the Forbacherberg, formed an exceedingly strong second line of defence—covered on the left by the Spicheren Wood, and strengthened by the Simbach Ravine in front, and by the fact that, if the main line were carried, the assailant would be unable to find room, except above the Rotherberg, for his artillery.

8. The extent of front to be covered was not too great for the numbers at Frossard's disposal. From the edge of the Pfaffen Wood, the extreme right, to the coal pit on the extreme left, is 4,700 yards in a straight line. Taking the strength of the 2nd Corps at 27,000, this gives $5\frac{1}{2}$ men to the yard; according to our own drill-book, 5 men to the yard is sufficient.

THE DISADVANTAGES.

1. The position was a broken one, half on the heights, half in the valley; and the centre was ill-defined.

2. Artillery positions were few. Only from the Rotherberg could artillery play on the St. Arnual Valley, and it is faced by the long Saarbrücken Ridge at a distance of 2,000 yards. But there is also room for the deployment of two batteries on the spur of the Forbacherberg, commanding the Folster Height, and there was no obstacle to the deployment of a long line of batteries in the Forbach Valley.

3. The steep and thickly wooded faces of the plateau, and the unbroken area of forest enclosing the right front and flank, were distinct sources of weakness. The slopes were not under fire from the crest; and the lower edge of the timber, from the Rotherberg to the Saar, is 3,500 yards in

length, an extent of woodland that would have required many hours of skilled labour to entangle. The whole border, moreover, is within 2,000 paces of the Saarbrücken Heights; and, therefore, if occupied, would have been exposed to a bombardment to which no reply would have been possible. The obstacles to supervision and manœuvring in the great breadth of wood, which covered the right front, were insurmountable. On the steep hill-sides, if the lower edge were held, were no suitable positions for supports or reserves; and it may be pointed out that the Duke of Würtemberg has stated that an energetic defence of the the border of the wood could not have been ensured, for the difficulties of retreat up the almost perpendicular ascent would have had a bad effect on the *moral* of the defenders.

4. The main line of retreat, the road and railway Forbach-St. Avold, was in rear of the flank, and not of the centre; and the secondary line, the Spicheren-Saarguemund Road, struck off at an obtuse angle to the front.

5. The position was somewhat unfavourable for counter-attack. The Saarbrücken Ridge offered a secure asylum to the enemy if repulsed; and artillery could only be brought to bear against him from the Folster Height and the Rotherberg. Nevertheless, as the action of the 2nd August had proved, the ridge might have been turned from the St. Arnual Forest; and, moreover, the enemy would have been compelled to fight with a river at his back.

6. The view from the heights was blocked by the Saarbrücken Ridge. The road leading from the Kollerthaler Forest, but not those from the east, nor the viaduct across the Saar, can be seen from the plateau.

The ground then, although some of its characteristics undoubtedly favoured the defence, by no means fulfilled all the requirements of a formidable position. But Frossard had little choice; and, as is often the case in war, was called upon to show his skill in the occupation of the line rather than in its selection.

We have now to consider whether the selection of the crest of the plateau, the Stiring-Schoneck Road, and the centre of the Stiring Copse, as the main-line, was judicious or otherwise.

It has been laid down by Colonel Schaw, and it is a common-sense maxim, that where the slopes of a hill are commanded by fire from the crest, the crest is the most advantageous line, for the whole space over which the assailant must advance is swept by fire, and the fire is likely to be particularly efficacious during the last part of his movement, the ascent of the hill-side. But in the case we are considering, not only did the steepness of slopes everywhere preclude their being so commanded, but the existence of dense woods covering the hill-side, encroaching on the valley below, and hiding the crest above, made the selection of a position doubly difficult.

The French commanders chose to renounce the lower border of the woods and to station their men upon the crest, trusting perhaps to the flanking fire from the Rotherberg to prevent the Germans gaining easy access to the woods. As the sequel will show, in this they were unsuccessful.

Nor was the position on the crest a strong one. In wood-fighting, when once the assailant has entered the covert, he is on equal terms with the defender, and the larger battalions will, *cæteris paribus*, prove victorious. The chief reliance of the occupant of a defensive position is on the difficulties of approach thereto. These neutralize the numbers of the assailant. But, by relinquishing the lower border, which commanded the broad and open valley, and deciding to meet the attack in the middle of the wood, the French lost all power of making the approach of the Germans a costly operation. The flanking fire from the Rotherberg could be easily kept in check by the German artillery; and the steepness of the slopes which led to the crest within the Gifert Wood, unswept as they were by fire, and concealed by timber, were a positive advantage to the assailants, permitting them to approach close to the main position with but trifling loss.

Again, as we have seen, Frossard might have made the Spichenen Ridge and the Forbacherberg his main line, maintaining the Rotherberg and the crest within the Gifert as an advanced post; a post which might have made the advance of the Germans across the valley a costly operation, have delayed their attack on the main position, and

exhausted the fighting powers of their men. When the post had fallen, or was abandoned before pressure of numbers, the assailants would have found themselves, as they lined the southern border of the Gifert Wood, with a broad open space and wide ravine, 200 feet in depth, between them and the enemy's main line, and without the means to assemble, or the room to deploy a strong force of artillery.

It is evident that Frossard's selection was the worst of the three; but which was the better of the other two, whether to hold the lower border of the woods as the main line, or to carry the main-line back to the Spicheren Ridge and the Forbacherberg, it is not so easy to decide. The lower edge of the woods was exposed, as has been said, to bombardment from the Saarbrücken Ridge; it was of great extent; there was no convenient cover on the steep hill-side for the supports; and the difficulties of retreat might, perhaps, as the Duke of Würtemberg has written, have had a bad effect on the *moral* of the defenders. Still, it was unnecessary to hold the border at every point; a few battalions, stationed at intervals, would have rendered the approach across the valley almost impossible by a frontal and cross-fire; and the bulk of the troops might have been detained behind the crest above until the advance of enemy's infantry masked the fire of his guns. As to the idea of the morale of the troops being affected by their position, this is more or less illusory. The slopes were so thickly timbered that the defenders, as they retreated, would have been well covered, nor could the fire of pursuers' artillery have followed them. In fact, retreat from the crest within the woods across the more open ground to the Spicheren Ridge, would be more likely to prove disastrous. Moreover, the position of the St. Arnual Parish Wood was favourable for a counter-attack on the Saarbrücken Ridge.

Had the main-line been withdrawn to the Spicheren Ridge and the Forbacherberg, the assailant, on gaining the Gifert and Pfaffen Woods, might have maintained them with a small force and have worked round the right flank of the main-line through the St. Arnual Wood, and by the Simbach Ravine. But he would have found it impracticable to bring up more than a few guns to the heights, and the front of his attack must have been greatly extended, thus giving an

opening for a counterstroke. A position 1,200 paces in rear of a wood which guns cannot traverse, and which covers the whole front, is an exceedingly strong defensive line. It is probable then, that this would have been the best main-line of the three; that which Frossard adopted being decidedly the worst.

In the other case, the right might have rested on the edge of the clearing between the Gifert and Pfaffen Woods, both borders of the clearing have been entangled, and a strong reserve retained on the crest to the right rear, in order to occupy the St. Arnual Wood in case of a flank attack, or to deliver a counterstroke against the Winterberg.

On the low ground, the selection of a main-line was an easier task; but here again we find the same disinclination to push forward. The northern outskirt of the Stiring Copse should have been occupied. Some 20 or 30 feet below the crest of the Folster Height, and divided from that undulation by a space of less than 300 yards, the field of view and fire was limited; but there was much advantage to be gained from such a forward disposition of the line of battle, and this will be clearly seen on a comprehensive survey of the position. The Rotherberg was salient to the French line; and, at the same time, it was something more than an advanced post. It was the key of the position. Once captured and strongly occupied, the main-line was broken; the enemy could cross the St. Arnual Valley in security, and mass his troops at his leisure at the foot of the heights. Had the position been carefully examined with a view to the adequate co-operation of artillery and infantry for the defence of the main-line along the crest of the plateau, and also to bringing the two wings into adjustment, it would have been discovered, the left wing being more retired than the right and the Stiring Copse left open to the hostile infantry, that the enemy's guns would be free to concentrate their efforts on the Rotherberg: the French batteries, owing to the lack of artillery positions on the plateau, and the impossibility of deploying in the Forbach Valley whilst the enemy's riflemen occupied the Stiring Copse, being unable to oppose the enemy's guns, and thus support their own infantry upon the spur. Even had the lower edges of the Gifert Wood been occupied, the hostile guns, deploying on

the Galgenberg and western knoll of the Folster Height, would be able, as they actually did, to pour a heavy oblique fire on the defenders of the Rotherberg, and to open the way to its capture by their infantry. Salients in any line are weak unless they are well secured by flanking fire. The Rotherberg, was not so secured, and this neglect led to its ultimate loss.

Nor was any device attempted on either wing to strengthen the main line where it passed within the woods, or to obstruct the passage of the enemy. Not an axe was laid to the trees, though the timber both of the woods upon the plateau, and of the Stiring Copse, was suitable for abattis and entanglement. It may be that in the general dearth of matériel, felling implements were not forthcoming; but had the French taken to heart the lessons of the Secession War, or had they possessed the skill of the American volunteers in improvising breastworks, Frossard's position would have assuredly been greatly strengthened.

Had it been decided to hold the northern edge of Stiring Copse, the occupation of the Folster Height would have greatly strengthened the line of battle. It is commanded at 2,000 yards range from the Saarbrücken Ridge, but there is sufficient cover to be found behind it; and earthworks might have been rapidly constructed on the crest. There is a broad field of fire to the front; and the supports of the troops posted in the trenches would have found shelter in the rear, and it is protected on the left by the copse and pond. The batteries would then have been able to deploy in the valley.

The best excuse for Frossard's desire to refuse his left was his apprehension of an attack on Forbach from the Saarbrücken Forest; and the true explanation of his choice of a position on the heights, of his neglect to entangle the woods, and of his carelessness as to the adjustment of his wings, lies in the fact that, notwithstanding his knowledge that the enemy was approaching in great force, notwithstanding Le Boeuf's warning, he was completely surprised by Von Kamecke's appearance, and had to frame his plan of battle on the spur of the moment.

DISTRIBUTION OF THE FRENCH TROOPS.

On the night of the 5th, 5 companies of the 77th line formed the outposts on the left and centre: one company in the Forbach Valley, three in the copse and Saarbrucken Forest, one near the Rotherberg. The regiment, with the 3rd Chasseurs, encamped between the copse and the foundry; the 76th behind Stiring Wendel.

Soon after day-break the cavalry of the various divisions was despatched to reconnoitre. A squadron of the 12th Dragoons was ordered by Vergé up the Metz High road; a second, at 9 o'clock, together with 10 companies of the 55th Regiment, through the Saarbrucken Forest on the road to Volklingen and Saarlouis; the remainder towards Saarguemund. The 5th Chasseurs, attached to Bataille's division, proceeded towards Grossbliederstroff; whilst Laveaucoupet watched the Simbach Ravine with two squadrons of the 7th Dragoons. The rest of the cavalry, the 4th Chasseurs and half of the 7th Dragoons, remained in bivouac at Forbach.

How the picquets were disposed on the heights is not known, but before 8 o'clock the Rotherberg was occupied; and under cover of a strong party of the 10th Chasseurs, posted at the foot of the hill, a company of sappers constructed a horse-shoe shelter-trench round the crest. Before the end of July, gunpits had been thrown up near the corner of the wood in rear.

Shortly before 12 o'clock, two companies of the 10th Chasseurs (260 rifles), took post in the trench, supported by two guns, 100 paces in rear. A third company formed a second line and an escort for the artillery, the remainder, still further back, the battalion reserve. 250 paces in rear of the left of the advanced section, was placed a second section of the 8th Light Battery.

The 40th Regiment of Micheler's Brigade was in immediate support of the Chasseurs, stationed behind the timber, with a battalion in the clearing between the Gifert and the Pfaffen Woods.

The 24th was held back for the present on the ridge north of Spicheren, where the brigade had bivouacked.

At 11.30 a.m., when the Prussian infantry first appeared upon the Saarbrücken Ridge, the 7th Light Battery was sent forward from its camp by Spicheren.

Two sections, to which was joined a section of the 8th Battery, were halted 200 yards north of the village, and a little east of the Spicheren Knoll, facing the clearing between the Gifert and the Pfaffen Woods. The remaining section of the 7th Battery proceeded to the Rotherberg, and took post on the right of the rear section of the 8th Battery, making 6 guns in all upon the spur.

Doen's Brigade, the 2nd and 63rd Regiments of the Line, stood, at 11.30, on the Pfaffenberg; but before 12 o'clock two companies of II/2 were dispatched to support the two squadrons of the 7th Dragoons in the Simbach Ravine, and it seems that a force of cavalry was stationed on the river road below.

In the Forbach Valley, I/76 occupied the French Toll House, the Golden Bremm, and Baraque Mouton. The 77th Regiment had picquets in the Saarbrücken Forest; 4 guns were placed in epaulments, east of Stiring Wendel, 1,000 yards in front of the Iron Foundry; and the 3rd Chasseurs had entered the Stiring Copse, but the troops of Jolivet's Brigade were for the most part still in camp when the Prussian infantry ascended the Saarbrücken Ridge.

Valazé's Brigade watched the *débouché* of the Volklingen and Saarlouis Road, strongly posted on the Kaninchenberg and in Forbach Town.

Bataille's Division was in reserve at Oetingen, 3 miles in rear of Spicheren; of the Reserve Artillery 4 (9pr.) batteries were in Forbach, 2 (16pr.) near Morsbach.

DEFENSIVE WORKS.

The front was strengthened by the following field-works: The horse-shoe shelter trench encircling the crest of the Rotherberg; cover for the supports; and slight epaulments for artillery in rear. A line of shelter-trench along the Spicheren-Stiring road (constructed between 10 and 12 o'clock), and gun-pits for four pieces, 1000 yards north-east of the foundry. A shelter-trench, 1,100 yards in length, upon the Kaninchenberg.

These works were thrown up previous to the Prussian attack ; but, during the course of the engagement, it appears that others were constructed both on the Forbach-erberg and Spicheren Knoll. The foundry and some of the neighbouring buildings in Stiring Wendel were loop-holed.

Had the various roads leading to Volklingen and Saarlouis been properly reconnoitred, there would have been no necessity to retain the whole of Valazé's Brigade in Forbach. The reserve division was close by at Oetingen ; and two battalions and a battery, thus supported, would have been sufficient to hold the Kaninchenberg ; the remainder being brought forward to support the left wing in the Forbach Valley.

With this exception, little fault can be found with the dispositions of the French Commander and his divisional generals, expecting, as they did, to be attacked by a superior force ; but, as before asserted, it was a gross and unpardonable neglect on the part of Frossard and his Cavalry Brigadier not to have taken steps to have the roads *beyond* the Saar constantly patrolled during the previous day, and also on the morning of the 6th, and thus obtain information of the enemy's strength and whereabouts.

This omission, more than all else, decided the battle against the French. So simple were the circumstances that it seems impossible that any soldier of standing, or even any man of ordinary common sense, should have neglected such precautionary measure. But it is by omissions of this kind, by disregard of the primary and most familiar rules of war, that battles are lost and great disasters brought about ; and hence the great strength of an army so thoroughly instructed as was the German. The judgment of the generals might err, but officers and men were so perfectly acquainted with their duty, that the traditional precautions which ensure the security of the troops from surprise, whether on the march, in the bivouac, in position, or during the attack, were very seldom overlooked. It is doubtless true, that a blind and absolute respect of rule is a frequent cause of military misadventure ; but, nevertheless, there are certain elementary principles which cannot be neglected with impunity. Very necessary is it, therefore, that every

officer who has command of a body of troops in the field, however small, should be so thoroughly imbued with a knowledge of those principles as to apply them, as it were, instinctively. This knowledge the German officers possessed; it was acquired, in the first place, in the class-room; and, by constant practice in field manœuvres, the application of it had become a second nature. Throughout the war, therefore, we find that far fewer mistakes were committed by the Germans than the French; and in war, where the combatants are fairly equally matched, he wins who makes the least mistakes. These principles, moreover, are few and simple; and it would appear that any man of courage and common sense, without any previous training, would naturally apply them in battle. But, if there is one lesson more than another which history and experience impress upon us, it is that in war, common sense is a quality by no means to be relied on. Even the greatest generals, at the height of their fame, have committed errors so glaring as to excite the wonder of the youngest student; and it is absolutely certain that the knowledge which has solidified into instinct is more to be depended on when the lives of men, the honour of one's country, and personal reputation are at stake, than mere natural capacity.

ADVANCE OF THE 27TH BRIGADE.

Shortly before 12 o'clock, General Von François, commanding 27th Brigade, received orders from Von Kamecke to drive the enemy's artillery from the Rotherberg. This, in all probability, was only preparatory to driving back the apparently weak force of French infantry from the heights which overlooked the Saarbrücken Ridge.

The 74th Brigade was at that moment disposed as follows:—

39th Fusiliers, I and F/74, upon the Drill-ground Hill and Reppertsberg.

II/74, South of Drathzug Farm, with a section in the Stiring Copse.

1/7 was already in action on the southern slopes of the

Drill-ground Hill. The three remaining batteries I, II, 2/7 and the 28th Brigade were at Raehspfuhl—the rear of the column still involved in the Kollerthaler Forest—and nearly 3 miles distant from the ridge (16). The batteries were immediately summoned to the front; and Von Woyna was directed to march the whole of the 28th Brigade across the viaduct, to attack the enemy's right flank, and to threaten his communications with Forbaeh.

Von François, sharing, in all likelihood, the conviction of his superior, that the Spichen Heights and Forbaeh Valley held a force but little stronger than his own brigade, and relying on the speedy support of Von Woyna's troops, determined to move against the Rotherberg on both flanks simultaneously. II/74, already at the Drathzug Farm, was to secure the right flank. III/39 was to attack the Spur from the west. I and II/39 were to advance against the enemy's right wing through the St. Arnual Wood. I and F/74 were to remain in reserve upon the Reppertsberg, and the 9th Company, 39th, was ordered up from Neudorf.

Now, from the Stiring Copse to the St. Arnual Forest is little short of 4,000 yards, a very great extent of front to be assaulted by 6 battalions and 4 batteries, the force at Von François' disposal. The operation was to be supported, it is true by another brigade; but that brigade was still at some distance; it had been ordered to approach the field by the narrow defile of the viaduct; and the ground beyond presented great impediments to rapid movement and deployment. The French position, as we know, had been by no means thoroughly reconnoitred, and it was possible that the rough estimate of 7,000 defenders, reported by the cavalry scouts, was very much below the total.

Nor did the situation demand an immediate advance. That Von Kameeke should have allowed his leading brigade to assault a position which had not been thoroughly reconnoitred, in so weak a formation as that adopted by Von François, has been stigmatized as foolhardy; and the risk he ran in engaging along an extended front, without waiting for his supports to close up, or preparing the attack by overwhelming the French guns upon the Rotherberg, can scarcely be justified.

As for Von François, his numbers were inferior to those of the French, as reported by the patrols; and for an inferior force to attack a superior simultaneously on both flanks is a breach of tactical principles which can only be committed with impunity against an enemy weak in *moral*, armament, or discipline. Supports were certainly coming up, but they were still distant; and there was every chance, even did the French force consist only of 7,000 men, and was but a rear-guard, that one or other of his columns of attack would be crushed before assistance arrived.

Had a little more time been allowed, a more effective formation might have been adopted—the left attack have been committed to the 27th, the right to the 28th Brigade; and the evil of the troops under one command being dispersed over a front too extensive to be supervised by a single leader, have been avoided.

When instant action is necessary, the first line of attack must, as a rule, be entrusted to a single unit; but where there is time for preparation, the formation of the troops should be carefully considered. It is almost an impossibility to correct errors once a battle has been joined; and it is of the utmost importance that no single battalion, brigade, or division, should be asked to act upon too large a front. In such a case, as with the 27th Brigade at Spielereu, if a stout resistance be met with, the reserves will rapidly be drawn into the gaps of the long fighting line, and no force will be left in hand to resist counter-attack, to press the assault, or to cover a retreat. Success in battle turns, as a rule, upon the skilful employment of reserves. No commander, therefore, who has a definite task set to him, a particular point of the defence to carry, should be deprived of the use of his reserves at the critical moment, by having been compelled, at the outset, to occupy an abnormal front.

Although determined to lose no time, Von Kamecke did not neglect to support Von François with the portion of his force that was immediately available; nor did he leave the task of clearing the Rotherberg to the infantry alone (16a.) On the stroke of noon, the three batteries of the main-body deployed upon the southern slopes of Reppertsberg and in conjunction with $\frac{1}{7}$ which, in order to bring an oblique

fire to bear upon the hostile guns, now crossed the Ehrental and took post upon the Drathzug Knoll, concentrated their efforts on the spur. Covered by the fire of these twenty-four pieces, the infantry marched off on either flank. It may be noticed that no escort was told off to the artillery.

RIGHT ATTACK.—12 NOON TO 2.30 P.M.

II/74 had occupied the Drathzug Farm with a company; two others were posted on either side the railroad, one was held in reserve, and the marksmen's section of the 6th Company had been despatched to search the north east corner of the Stiring Copse.

The three companies of III/39, descending the Drill-ground Hill, and crossing the Folster Height in line of company columns, at deploying intervals, were assailed by hostile shells. The attention of the French infantry and artillery upon the Rotherberg appears to have diverted from this battalion, passing beneath the spur at short range, by the fire of the Prussian guns, or by the movements of the other attacking column; but the four guns in the Forbach Valley now first revealed their presence, and Chassepôts from the neighbourhood of the Toll House and the Golden Bremm, where the First Battalion of the French 76th was posted, opened fire at a range of 1,400 yards. Few casualties occurred in the Prussian ranks; but, in consequence of this fire, the 39th, instead of wheeling towards the Rotherberg, entered the Stiring Copse, moved forward on the left of the section of 6/74, and became at once engaged with the advancing skirmishers of the 3rd Chasseurs. At the same time, the marksmen's section of the 12th Company, detached in order to cover the left flank, took up a position behind an undulation 1,000 paces from the German Custom House, bringing a brisk fire to bear upon the enemy's artillery and infantry in the neighbourhood of the homesteads.

Through the widely scattered trunks of the lofty beeches, the Fusiliers pressed rapidly forward to the middle of the

copse, the French riflemen giving way before them. At this point, however, the wood grows thicker; the enemy appeared in force, and the Fusiliers were soon hard put to it to hold their own. Support was not forthcoming, for II/74 had meanwhile crossed the railroad under a heavy fire from the foundry and Old Stiringen; and, with the 7th Company in advance, was moving forward through the Saarbrücken Forest, in the hope of outflanking the French left.

Reaching the northern limit of the clearing below the coal-pit, at 1.30 p.m., the 7th Company 74th broke into a line of skirmishers along the border of the wood; two sections of the 6th being brought up to prolong the line to the right; whilst the 5th and 8th, in line of company columns at deploying intervals, formed the reserve in rear. The Coal-pit Ridge was occupied by three companies of the 77th of the French Line; these were speedily reinforced by another half-battalion, and the Prussians, although protected by the timber, suffered heavily from the Chassepôt fire at a range of 700 yards. Nor was the position long maintained. The front of the whole right attack was far too weak. The French, so soon as it became evident that the operation was something more than a reconnaissance in force, gradually developed their strength. The mitrailleuse and the second field battery (6/5 and 7/17) of Verge's Division came into action near the Golden Bremm, on the right and left of the 5th Battery, which was now complete. The Second and Third Battalions of the 76th of the Line deployed 800 paces north-east of Stiring Wendel. I/77 was posted on the left of the railway, and furnished half a battalion for the defence of the Old Stiringen and the coal pits. II and III/77 held the village and formed the reserves. Within the copse the Chasseurs pressed hard upon the 39th, and a message was therefore sent to the brigadier for reinforcements. The commander of II/74, engaged himself with a powerful force, but attentive to the course of the action on his left, had become aware of the distress of the Fusiliers. Their line, it was apparent, was gradually receding (17). Should the French become masters of the copse, his own danger would be great; the 8th Company, therefore, was sent back to the railway crossing,

south-west of Drathzug. The marksman's section deployed across the line, and checking detachments of French riflemen who were attempting to press forward along the permanent way, effectually secured the flank of the 39th; and by reserving its fire until the enemy approached within 100 paces, drove back a column that was advancing by the side of the pond.

The remainder of the battalion, without molestation, followed through the forest at short intervals. A position was taken up near Drathzug; and, at the same time, the much needed support came up from the rear to the 39th.

3/74, it appears, had already, before the remainder of the battalion left the Reppertsberg, marched in rear of $\frac{1}{7}$ by way of the German Mill, with instructions to approach unobserved the left flank of the enemy's artillery upon the Rotherberg.

1 & 2/74, led by General Von François himself, proceeded towards the Stiring Copse across the Folster Height. Here they were met by 3/74, which, as it crossed the railway near Drathzug Farm, had lost many men from the fire of Vergé's battery of mitrailleuses, posted parallel to the Metz High-road, between the Toll House and the Golden Bremm.

A portion of this company joined the brigadier; but the remainder, the larger portion, intent on carrying out the original order, moved eastward towards the Rotherberg, and halted under cover of an undulation, some hundred paces in rear of the marksmen of 12/39. The hostile fire from the slopes above the Golden Bremm prevented a further advance.

After advancing from the Folster Height into the Stiring Copse for about 300 paces, the 2nd Company (74th), joined the hard-pressed right flank of the 39th; whilst the 1st Company, further to the left, lent its support to the detachments as they fell back and again led them forward.

Von François, giving the conduct of this attack to Colonel Von Pannwitz, commanding 74th Regiment, rode back to his reserves.

As the Prussian infantry advanced through the copse, the French guns (two field batteries and one of mitrailleuses)

retired from their position near the Golden Bremm to the Spicheren-Stiring Road.

By 2.30 p.m., the battle on the right was restored; the centre of the copse was regained; and II/74, once more crossing the railway, resumed its attack against the Coal-pit Ridge. The marksmen of the 6th Company had now rejoined their comrades.

The nine Prussian companies, more than 2,000 strong, engaged on this flank of the action, were now deployed along a front of 1,400 yards, an extension which permitted of no reserve and no manœuvring. Against them were arrayed six battalions (3,750 men), the 3rd Chasseurs, the 77th Regiment, and 2 battalions of the 76th, supported by the three divisional batteries, which, from their position on the road, swept the whole of the open space between Stiring Wendel and the woods.

THE LEFT ATTACK.—12 NOON TO 2.30 P.M.

In order to avoid the ground effectively commanded from the Rotherberg, I and III/39 made a long detour, marching along the crest of the Saarbrücken Ridge as far as the Winterberg, and descending to the level by the gully which falls to the St. Annual Pond. During this movement, the Germans had their first experience of long range fire. The column as it wound along the open heights offered a broad target; a hot fire arose from the Rotherberg, occupied by the 10th Chasseurs, and, at a distance exceeding 2000 yards, several men fell.

Leaving the gully, the battalion wheeled to the right, and passing round the pond, followed a track leading towards the saddle between the Gifert and Pfaffen Woods, distinctly recognisable from the thinness of the trees. The formation adopted for the ascent of the wooded heights was as follows:—

$\frac{2}{4}$	$\frac{3}{1}$	} 1st Battalion	} In company column at deploying intervals.
7	$\frac{6}{5}$		
		} 2nd Battalion	

The track passed through a hollow, but both shot and shell, we are told, fell from the Rotherberg amongst the Fusiliers before they reached the foot of the heights, and, covered by the salient angle of the Gifert Wood, gained shelter and concealment. Doffing their knapsacks before they entered the timber, the ascent was made without obstruction. The lower border was unoccupied; and on the leafy slopes above them nothing stirred. But to advance directly up the cliff was almost an impossibility. The leading companies bore off to the right; in the dense thickets the ranks broke up into groups; connection between the successive lines was lost; the 1st and 4th Companies inclined too much to the left; whilst the 2nd Battalion, skirting the edge of the wood and assailed by musketry from the Rotherberg, commenced the ascent at a point further to the right, and nearer, therefore, to the spur.

Shortly after 1 o'clock the leading companies, 2 and 3, reached the crest; and here the Fusiliers again came under fire; for along an undulation within the Gifert Wood were posted the skirmishers of the 40th Regiment of the French Line. These, however, after a brief engagement, withdrew from the covert, and joined the main-body of their battalion, occupying a hollow road and some shallow ditches, a few hundred paces from the border of the wood. From this favourable position a heavy fire was poured upon the 2nd and 3rd Companies of the 39th as they lined the southern outskirts of the timber, and their further advance was stayed.

The companies of the second line came gradually into action in the thinner wood to the left; and the 4th Company, on the extreme flank, moved forward across the clearing between the woods in order to turn the enemy's right. But a company of the 40th had been posted in the thin wood on the saddle before the action began; and a support of two companies occupied a ditch within the clearing. The Prussians advanced to the attack with the bayonet, but the advanced company of the French retiring, to the corner of the Pfaffen Wood, repulsed the attempt with musketry. A second attempt to turn the enemy's flanks, by pushing through the wood still further to the left, met with no

better success. French skirmishers appeared on every hand ; contact with the battalion was lost, and the company again withdrew, without, however, drawing the enemy in pursuit.

Whilst the 1st Battalion was thus engaged, two companies of the 2nd came up upon the right. The 6th, which had suffered heavily from flanking fire as it attempted to enter the wood, was retained at the foot of the slopes, and, under cover of a swell of ground, engaged the enemy's riflemen on the Rotherberg at a range of 500 paces.

On the arrival of this reinforcement, the Prussians endeavoured to advance from the shelter of the wood ; but the French were supported by the fire of the six guns below the Spicheren Knoll, and the attack was quickly beaten back. And, in truth, it should never have been made. From the border of the Gifert Wood the whole interior of the plateau was plainly visible. The battery below the knoll was little more than 1,300 yards distant ; a column of three battalions was advancing across the ravine to the right front, for Laveaucoupet, as the attack developed, had ordered up the 24th to support the 40th. Down the green slopes of the Pfaffenberg, the back-ground of the picture, Doen's Brigade of six battalions was also moving forward ; and it must have been evident to the Prussian leaders that, unless strong reinforcements speedily arrived, to hold the ground already won would be well-nigh impossible.

But at this critical moment (2.30 p.m.), the commander of the 14th Division could do nothing to extricate his troops from the trap into which he had so recklessly thrust them. The three squadrons of cavalry within the Ehrental had now increased to seven, but not a single company of infantry remained at his disposal. He could stir no hand to help the 39th ; and in what manner his reserve had slipped from his hands must be next recounted.

The three batteries of the main-body, $\frac{\text{I, II, \& 2}}{7}$, deployed at first upon the Reppertsberg, had failed from that situation to crush the fire of the French guns upon the Rotherberg. Before 1 o'clock, therefore, Von Kamecke had ordered them to change position to the Winterberg ; and very shortly afterwards the foremost section of the hostile battery upon

the spur, exposed to the oblique fire of the battery on the Drathzug Knoll, was compelled to withdraw. Besides the lieutenant in command, several men and horses were wounded, and the two waggons were disabled. Retiring to the saddle, it again came into action on the left of the remaining section. About this time, the six guns upon the spur were reinforced by the divisional mitrailleuse battery, which, taking post to the left rear, engaged the Prussian guns upon the Drathzug Knoll at a range of 1,850 yards.

It would appear that the rearward movement of the two French guns on the Rotherberg, together with the withdrawal of the batteries in the Forbach Valley and the unobstructed passage of I and II/39 up the slopes of the Gifert Wood, had increased Von Kamecke's conviction that the French were in small force. He believed, it appears, that one resolute effort only was required to master the plateau, for, shortly after 1 o'clock, he ordered the two battalions of the 74th, his sole reserve, to assault the Rotherberg in front (18).

To support this movement, the three batteries of the main body were brought from the Winterberg to the Galgenberg; and, although within long range (1,300 yards) of the enemy's musketry, and 200 feet below the horse-shoe trench, concentrated their fire upon the defenders of the spur. This attack, being distinct from, but linking together those in progress on either wing, may be termed :

THE CENTRAL ATTACK. 1.10 P.M.—2.30 P.M.

The Fusilier battalion of the 74th, accompanied by General Von François and the colonel of the regiment, headed the advance from the Reppertsberg, formed in line of company columns at 80 paces interval, with the whole of its marksman's sections extended 150-200 paces to the front. As the First Battalion, following at short distance to the right rear, approached the Galgenberg, the brigadier received an appeal for help from the Stiring Copse, and led, as we have seen, the 1st and 2nd Companies in that direction.

It has already been recorded that the 3rd Company had

before this been directed to the same quarter of the field. The 4th Company alone followed the Fusiliers.

As they crossed the open space between the opposing heights, these five companies suffered severely; for, disregarding the shells of the four hostile batteries, the garrison of the Rotherberg, riflemen and artillery, concentrated their fire on the advancing infantry.

More than fifteen hundred paces of absolutely open ground intervened between the Ehrenthal and the Spicheren Heights, nor was shelter to be obtained until the foot of the Rotherberg was reached. But despite the heavy fire which assailed them and the rapid thinning of their ranks, without breaking their formation or attempting to reply with the needle gun, the Fusiliers traversed this deadly zone at a steady pace. As they neared the heights, their losses became less frequent; and when they gained the shelter of the bank which runs round the foot of the Rotherberg, the hostile bullets passed harmlessly overhead. Here, his four companies hidden by the steepness of the slope from the trenches on the crest, and firing only when some adventurous Frenchman ventured on the face of the cliff, Von François awaited the development of the flank attack of the 39th within the Gifert Wood. The men were with difficulty restrained from dashing forward up the height, but the attempt would have been useless. The defenders of the trenches were on the alert; and except 9/39, which had just arrived upon the drill-ground and had been already ordered to assist them, no support was at hand. The 4th Company had been directed to the east side of the Rotherberg, in order to protect the flank of the battalion against a possible counter-attack from the north west corner of the Gifert Wood. Without much loss, it had succeeded in joining 6/39, well covered from the spur by rising ground.

It appears at first sight almost incomprehensible, considering that a battalion of Chasseurs and a company of Sappers, 800 riflemen, besides 6 guns, were posted on the Rotherberg, and that the ground over which they advanced was perfectly open, that the five companies of the 74th were not absolutely annihilated before they reached the spur. Their escape was, however, due more to the covering fire of

the four batteries on the Galgenberg and Drathzug Knoll, than to the indifferent and uncontrolled musketry of the French. The regimental history of the 10th Chasseurs states that "the German batteries concentrated all their efforts on the infantry, and their fire enabled the Prussian companies to gain ground." No less remarkable is the forward position taken by the German batteries on the Galgenberg, so close beneath the shelter-trench. It may be noticed that the four batteries of the 14th Division lost throughout the day but 2 officers, 24 men, and 45 horses, and that the very effective flanking position of the guns on the Drathzug Knoll—and later on the Folster Height—would have been untenable had the Stiring Copse been occupied.

THE STATE OF THE ENGAGEMENT AT 2.30 P.M.

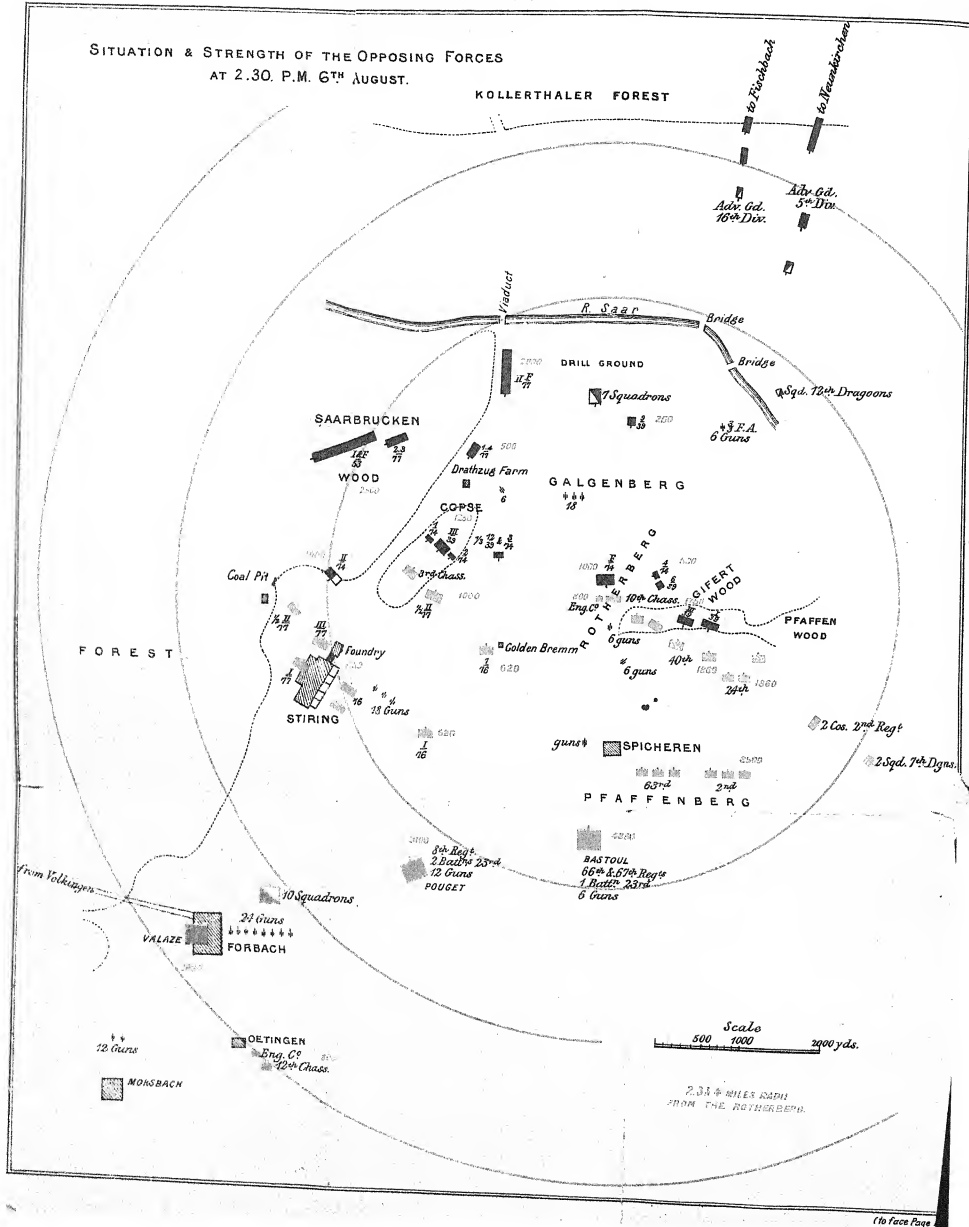
At 2.30 p.m., therefore, the Fusiliers of the 74th, already severely handled, could do no more than hold their position: to advance or retreat were alike impossible. On the left, the attempt of I and II/39 to move forward from the Gifert Wood had been crushed; and, on the right, within the Stiring Copse, the attack had gained but little ground. Along the whole line, the Prussians had lost heavily, and the troops were much exhausted. Every rifle of the 27th Brigade had been thrown into the fighting line, for 9/39 was already descending the Reppertsberg; and, although the advanced guards of the 5th and 16th Divisions were approaching St. Johann, they had still to pass through the town, to cross the river, and to traverse the St. Annual Valley, ere they could render effective aid.

The 28th Brigade, which, had Von Kameeke's disposition been less hasty, would have been the natural support of the 27th, had passed the viaduct; but it had received instructions to attack the left rear of enemy; and the whole of the 53rd Regiment, together with a half battalion of I/77, was already involved in the tangled thickets of the Saarbrücken Forest. I and 4/77 had just reached Drathzug; the remainder of the brigade was still some distance in rear.



SITUATION & STRENGTH OF THE OPPOSING FORCES
AT 2.30. P.M. 6TH AUGUST.

KOLLERTHALER FOREST



A vigorous effort on the part of the French would, in all probability, have rolled up this attack. The German fighting line within the Stiring Copse, and along the northern edge of the Coal-pit Clearing, was composed of but nine companies of the 28th brigade. The 53rd Regiment, cut off by the dense wood, was in no condition to render effectual support; the column in rear was moving through a narrow defile, and the two companies at Drathzug could have scarcely done more than cover the retreat.

On the extreme left, the situation was still more critical. Save 9/39, 250 rifles, no support whatever was available. General Von Doring, commanding the 9th Brigade, who had outstripped his advanced guard by some miles, was ascending the ridge with $\frac{3}{3}$ L (the escort squadron, 2nd of 12th

Dragoons, he had sent up the left bank of the river to scout beyond St. Annual); there were seven squadrons present in the Ehrental with Rheinbaben; and the cavalry of the advanced guards of the 5th and 16th Divisions was already entering Saarbrücken; but neither horsemen nor artillery could assist the two battalions within the Gifert Wood.

The left wing was at the mercy of the French. Had a good look-out been kept from the Rotherberg, the fact that the attacking force, including the troops at the foot of the spur, did not exceed 3000 men, and also that no infantry supports were at hand, must have been apparent. The moment was ripe for a vigorous counter-stroke. Already the reserve division, 7,500 strong, was approaching the front. Before noon, when the cannonade became audible at Oettingen, General Bataille, anticipating Frossard's instructions, had given orders for Bastoul's Brigade, accompanied by a battalion of the 23rd and a battery, to march on Spicheren, whilst he himself proceeded with the remainder to Stiring Wendel. Of Laveaucoupet's Division, three entire regiments, or nearly 6,000 men, had not yet been engaged.

The accompanying sketch shows the strength and disposition of either side at 2.30 p.m.; and it appears probable that had the French leader ordered a general advance, Von Kamocke's Division would have been driven back to the Saarbrücken Ridge, and perhaps across the Saar. His left

was isolated, and confronted by overwhelming numbers; Von Döring's battery alone occupied the Winterberg; nor were the supports of his right wing in a position to render assistance to the fighting line.

The Prussian leader, throwing precaution to the winds, and attacking a strong position without previous reconnaissance, had committed a flagrant error. Victories are won by taking advantage of such errors, and from the first moment of an engagement, a commander should be watching his adversary with eagle eye, ready to take instantaneous advantage of the first false move.

But to do so with effect, the presence and personal direction of the General-in-Chief is absolutely necessary. He alone can give the impulse which would combine the action of the widely separated wings, of the reserve and the artillery, and set the mass in motion to a common end. Unfortunately, however, for the French, Frossard was still at Forbach, in the centre indeed of his divisions, but unable to overlook the field. He does not appear, in truth, to have thoroughly grasped the situation. He knew that three hostile Army Corps, 90,000 men, were converging on Saarbrücken; and that even if Bazaine were to come to his assistance, their united forces would number less than 70,000. Their best chance, therefore, was, if possible, to deal with the enemy in detail. And in any case it was Frossard's bounden duty to dispose of the isolated portion that had so recklessly placed itself in his power; thus depriving the Germans of a considerable force, and invigorating his own people by a first success. He has given as his reason for not presenting himself on the field the necessity he was under of remaining near the telegraph, so as to be in constant communication with Bazaine, and that at Forbach he was conveniently situated for receiving and transmitting messages from and to his wings and his reserves. But his telegrams to the marshal proves that almost before a shot was fired he had become convinced that he was seriously threatened, that the engagement would be more than a reconnaissance in force; and under these circumstances his place was assuredly in the midst of his troops, on the commanding situation of the Forbacherberg, where he could overlook the field and make his influence felt.

Whether he was kept informed by the Chief of General Laveaucoupet's Staff of the state of affairs at the front is not known. The fact remains that he lost a golden opportunity. "Fortune," said Napoleon, "is a woman. Avail yourself of her favour while she is in the humour. Beware that she does not change, through resentment at your neglect."

And Frossard was doubly bound to get rid of his audacious antagonist. The strong reconnaissance which had been despatched at 9 o'clock in the direction of Volklingen, had returned at noon. An officer of the Staff was waiting to receive the information obtained, and this proved of the utmost importance. At Great and Little Rosseln, two villages about three miles from Forbach, Prussian troops had been encountered, infantry as well as cavalry, and had been driven back into the forest. The presence of the two arms combined would have been sufficient indication that this force was something more than a strong patrol; and full confirmation of the suspicion that it was more likely the advanced guard of a division was found in the villages. Every door had chalked on it by the Prussian billet-markers the number of men the house would hold, and the inhabitants had been warned to prepare for the reception of 12,000 men between 3 and 4 o'clock. *No doubt remained, therefore, but that the 2nd Corps might expect attack on its left rear before 5 o'clock. Forbach, the point threatened, was two miles in rear of the main-line, and the situation was, at first sight, decidedly embarrassing. But, on reflection, it seems that the French had no reason for apprehension. On the contrary, holding a central position, with 28,000 men, against 24,000, divided into two columns, and separated by several miles of forest, they had decidedly the best of it. The situation was one which Napoleon would have gloried in. Had Frossard been gifted with a spark of Napoleon's genius, he would have re-enacted Rivoli, and have destroyed one, if not both, of the hostile columns.

Detaching a regiment of infantry, part of his numerous cavalry and reserve artillery, he might have held the 13th

* This account of the reconnaissance made by the 55th Regiment is taken from the *Spectateur Militaire*, 1885, and was written by an officer present at the battle.

Division in check for many hours in the Saarbrücken Forest. Bataille's Division, supporting that of Laveaucoupet, together out-numbering Von Kamecke's left wing by more than three to one, should have found little difficulty in clearing the plateau, in driving back the Prussian batteries, and in re-occupying the Saarbrücken Ridge. By such a stroke Von Kamecke's right wing would have been cut off, and have been forced to retreat through the forest to Volklingen.

But at 2.30, Frossard, seemingly content so long as his divisional generals maintained their line unbroken, and careless of his adversary's mistakes, was still passively awaiting the arrival of reinforcements he expected from Bazaine. And, what is more, he did not report to the marshal the information that had been obtained at Great Rosseln.

It will not be out of place if we now take note of the movements and position of the various bodies of troops which either general expected to assist him.

FRENCH.

Shortly after 9 o'clock, Frossard had requested Bazaine by telegraph to order a brigade of Montaudon's Division from Saarguemund to Grossbiederstroff; and also that Decaen's Division might advance from St. Avold to Merlebach and Rossbruck. Grossbiederstroff is $4\frac{1}{2}$ miles from Spicheren; Rossbruck 5 miles from Stiring Wendel.

At 11.30 he received a reply, to the following effect:—

Metman's Division had been ordered to advance from Marienthal to Bening, 7 miles from Stiring Wendel.

Castagny's Division, from Puttelange to Theding, 6 miles from Spicheren.

At 2.25 came a second despatch, reporting that Montaudon's Division was about to proceed to Grossbiederstroff.

The roads were excellent and in good order; and it was even possible to march on a broad front across the open and unobstructed country. The morning camps were in no case more than 10 miles distant from the field of battle.

At 2.30, therefore, Frossard was under the impression that three divisions, numbering at least 25,000 men, were close at hand. He also appears to have believed that they were advancing to his assistance, although Bazaine had made no mention that such was the case, nor had he himself taken any steps to secure their aid.

What was the actual state of the case?

Metman, under instructions from Bazaine, had advanced on Bening at 10 a.m., but he did not arrive until 3 o'clock, having marched four miles in five hours. The cannonade at Spicheren was distinctly heard, but he made no attempt to communicate with Frossard. His troops went into bivouac and he stood waiting orders. Yet he was within reach of the telegraph, and two squadrons of cavalry were attached to his division.

Castagny, at Puttelange, heard the firing at 11 o'clock. Without waiting for instructions, and leaving his baggage behind and his camp standing, he moved at once on Spicheren. After marching three or four miles, in a direction too much to the right, he halted, for the sound of the battle was no longer audible, and before 3 o'clock, set out on his return to Puttelange. He appears to have been as indifferent as Metman to the state of affairs at the front, for not a single horseman was sent out to procure information.

Montaudon, at 2.30, had received no orders; and, although the continuous roar of cannon told him that the 2nd Corps was heavily engaged, he betrayed neither anxiety nor curiosity as to the progress of the fight.

Frossard, on his part, after receiving definite information from Marshal Bazaine that supports had been sent forward, can scarcely be excused for not having despatched couriers to take up communication with the advancing divisions. It is very necessary that every unit on the theatre of war should be linked by patrols with those on either hand. The task of establishing such connection is incumbent upon all.

Juniac's Dragoon Brigade reported to Frossard at 4 p.m., but was sent back to Bening. There was no need for more cavalry, and it was necessary to keep the roads clear in case of retreat.

GERMAN.—FIRST ARMY.

It has already been noticed that General Von Goeben, Commanding the VIII Army Corps, had promised his support to Von Kamecke in the event of the French assuming the offensive. As he rode back through the forest, the sound of the cannonade was borne to his ears, increasing every moment in intensity. The 14th Division was already engaged. It was the advanced guard of the First Army, and must be supported by the main body; he therefore determined to move as rapidly as possible to the Saar.

The 16th Division led the march of VIII Army Corps, and its advanced guard had reached Fischbach at 12 o'clock. Here it had been ordered to halt, for the day's march assigned to it by the corps commander was completed. With this force was present Lieut.-General Von Barnekow, commanding the division; and on reaching Fischbach, he too had heard the ominous sounds from the valley of the Saar. Without waiting for orders he had directed his advanced guard, consisting of the 9th Hussars, 40th Fusiliers, 6th Light and 6th Heavy Batteries, as it was in the act of establishing the outposts, to resume its march. The main body was also called to arms. When General Von Goeben, arrived, therefore, he found that his intention had been partially anticipated. The 72nd Regiment, two batteries, and the 31st Brigade, of the main body, he ordered to follow the advanced guard. He considered it unnecessary to move the 15th Division, now standing with its head at Holz; and returned again to Saarbrücken.

At 1.30, the head of the van-guard debouched from the Kollerthaler Forest. Here an officer, who had been sent forward to communicate with Von Kamecke, reported that there was apparently no immediate necessity for support, but that it would be desirable for the 16th Division to cross the river and occupy the ridge. The march on St. Johann was continued. At 2.30, the hussars and artillery were within Saarbrücken; the leading files of the 40th Regiment were entering St. Johann.

The 13th Division (VII Army Corps), had originally been

ordered to take up a position at Puttlingen; but General Von Zastrow, commanding VII Army Corps, when he empowered Von Kamecke to act on his own judgement and, if necessary, to occupy the Saarbrücken Heights, had considered it advisable, at the same time, that the 13th Division should be pushed forward to the Saar, in order that, if necessary, it might be in a position to support the 14th.

To obtain the sanction of the Commander-in-Chief of the First Army, a Staff officer was sent to Eiweiler, where Headquarters had arrived about noon. General Von Steinmetz replied, "The enemy must be punished for his negligence. In order to prevent him from re-occupying his position on the left bank of the Saar, that position must be seized in the interests of the Second Army. An attempt should also be made to interrupt the embarkation of French troops at Forbach, who are said to be weakly supported." This reached Von Zastrow between 12 and 1 o'clock; and a despatch was immediately sent to the commander of the 13th Division instructing him to cross the Saar at Volklingen, to push forward his advance and proceed in the direction of Ludweiler and Forbach, sending out patrols to discover the strength and intentions of the enemy. At the same time, Von Kamecke was ordered to occupy the Saarbrücken Heights with a strong advanced guard, to post his main body at Rackerhausen, to throw a bridge there, and to patrol towards Forbach. These instructions had, however, been already anticipated, not only by Von Kamecke but by Von Glümer, commanding the 13th Division.

The main body of the 13th Division had reached Puttlingen towards noon. The advanced guard had already crossed the river and taken post at Wehrden. Here the thunder of the guns was plainly heard; and intelligence was brought in by the cavalry patrols that the 14th Division was engaged near Stiring Wendel, and that hostile battalions were advancing from Rosseln (20). A squadron of hussars and the 7th Jägers were immediately sent in the direction of the latter village, and it was these troops whom the French reconnoitring detachment encountered. (See page 153.)

General Von Glümer, taking with him a squadron of hussars and VI/7, rode on to Wehrden. On his arrival, he

found that the commander of his advanced guard had already resolved to attack the left flank of the French. Approving the design, he sent orders for the main-body to follow. The advanced guard then moved on Forbach, $6\frac{1}{2}$ miles distant, by way of Great Rosseln; a company of Jägers and a troop of hussars taking the road by Clarenthal to Schoneck; thus filling the interval between the 13th and 14th Divisions. At 2.30, the head of the advanced guard had reached Great Rosseln, $2\frac{1}{2}$ miles from Forbach, without seeing anything of the French. As yet the divisional general had acted entirely upon his own responsibility. The orders issued by Von Zastrow at Dilsburg had not reached him. The corps artillery was ordered to Puttlingen, north-west of Volklingen.

Von Zastrow and his Staff left Dilsburg for the Saar at 1 o'clock; the last reports from the front pointing, not to the retreat, but to the advance, of the French upon Saarbrücken.

HEAD QUARTERS.—FIRST ARMY.

General Von Steinmetz, on receipt of the reports from the commander of VII and VIII Army Corps, sent his quartermaster general to Saarbrücken. This officer met on the road orderlies bringing intelligence of the state of the engagement from Von Kannecke to his corps commander, Von Zastrow. Their despatches, together with the increasing din of battle, left no doubt in his mind but that a severe action was in progress; and he sent, therefore, to his chief a message to this effect. General Von Steinmetz at once rode forward to the battle field.

SECOND ARMY.

The III Army Corps, forming the leading echelon of the right wing of the Second Army, had for its advanced-guard the 5th Division, of which the 9th Brigade was moving forward by the Neunkirchen-Saarbrücken, the 10th by the Neunkirchen-St. Ingbert Road, thus covering the approaches both from Forbach and from Saarguemund.

General Von Doring, commanding the 9th Brigade, had, as we have already seen, taken the precaution to ride on to the line of foreposts early in the morning, and had witnessed the first reconnaissance of the cavalry squadrons towards Forbach between 9 and 10 o'clock. Soon after rejoining his brigade, the head of which was approaching Dudweiler, he received information that the 14th Division was marching through St. Johann with the intention of occupying the Saarbrücken Heights. From what he had already observed, it appeared to him quite probable that the enemy had no thought of retreating, and that Von Kamecke might find himself in a trap. He therefore resolved to continue his march beyond Dudweiler to the Saar. Reporting to this effect to his divisional commander, General Von Stülpnagel, he rode to the front at 12 o'clock, taking with him the 1st squadron of the 12th Dragoons and the 3rd Light Battery. When General Von Doring's order to resume the march was issued, his brigade had already occupied quarters in the villages along the road, and the men were cooking their mid-day meal. The van-guard was at Dudweiler; the rear of the main-body at Bildstock, $4\frac{1}{2}$ miles distant. The sound of cannon had been already distinctly heard, and when the assembly sounded at 12.45, the companies were rapidly mustered, and marched off between 1 and 2:—the 48th Regiment from Dudweiler and Sulzbach forming the advanced guard; 1/8th Regiment and 3rd Jägers from Freidrichsthal, II and F/8th from Bildstock. The morning march of five miles had lasted from 5.15 to 8.30 a.m. From Dudweiler, the Reppertsberg is five miles, from Bildstock, 10 miles distant.

The 3rd Company of the 8th Grenadiers was cantoned in a little village half-an-hour's march from Freidrichsthal, the place of assembly for the battalion. Intending to join his battalion on the march, the company commander struck the high-road in front of the 3rd Jägers, but in order to avoid the delay that might be caused were he to stand aside to allow them to pass and endeavour to pick up his proper place in the column, he pushed on at once, and found himself leading the main-body of the brigade.

As they passed through the road-side villages, the inhabi-

tants thronged round the soldiers, pressing on them food and drink, and it was with some difficulty that order was preserved. At 2.30, the head of the 48th already was within St. Johann; the leading company of the main body had reached the southern border of the Kollerthaler Forest, and the divisional commander had arrived on the battle-field with the escort squadron and light battery, his brigade extending along the road as far as Sulzbach, distant eight miles or three hours' march from the Saarbrücken Ridge.

The 10th Brigade, with the exception of the 12th Regiment, still at Neunkirchen, had halted in or about St. Ingbert, $8\frac{1}{2}$ miles from Saarbrücken. A communication had been received by General Von Schwerin, the brigadier, from the 6th Cavalry Division, that hostile troops were advancing from Habkirchen, 6 miles north of Saarguemund on the Blies, in the direction of Annweiler. In consequence of this information, he had assembled the 52nd Regiment, 2 squadrons, the 4th Light and 4th Heavy Batteries at St. Ingbert; whilst the 6th Cavalry Division gathered together, between Ensheim and Ormesheim, in order to check the hostile movement. At 2.30, Von Schwerin received orders from Von Alvensleben to march all his available infantry and artillery to Saarbrücken.

The commander of the III Army Corps, General Von Alvensleben, receiving at Neunkirchen General Von Stulpnagel's (commanding 5th Division) report, ordered as many of his corps as possible to be brought up to Saarbrücken during the day. Two regiments, the 12th and the 20th, of the 6th Division, were to proceed by rail.

Thus, at 2.30 p.m., the heads of the 16th Division and of the 9th Brigade had already reached St. Johann; the 12th and 20th regiments, and very shortly afterwards, the 10th Brigade, had been placed under orders to support the 14th Division. The 13th Division was pushing through the Saarbrücken Forest in the direction of Forbach; and 35,000 infantry, together with three regiments of cavalry and 66 guns, were in full march to the field of battle.

Although it is nowhere expressly stated, there is no doubt that as soon as these orders were issued, the commanders of the various corps and divisions immediately communicated

with Von Kamecke. At the time we are speaking of, the orderlies would not have yet arrived; but he was aware of General Von Goeben's intention to support him; and the roads converging on St. Johann were already covered with the leading battalions of the 16th Division and the 9th Brigade.

THE BATTLE ON THE PLATEAU. 2.30-3.30 P.M. (21.)

Although Frossard himself, too deeply enamoured of the passive defensive, was not minded to anticipate the arrival of hostile reinforcements by a counter-stroke, Laveaucoupet, commanding the right wing, had determined to do on a small scale what his superior should have done on a large, and to drive back the six companies of the 39th which immediately confronted him along the edge of the Gifert Wood. The whole of Micheler's Brigade, the 40th and 24th Regiments, was already in first line; and to support the counter-stroke, Doens' Brigade was now brought forward; the 63rd to the Spicheren Knoll, and II & IV/2 towards the Pfaffen Wood, in order to turn the Prussian left. I/2 was left behind upon the Pfaffenberg, and Frossard was requested to allow a brigade of Bataille's Division, now approaching, to occupy the position Doens had vacated.

Shortly after 2.30 the attack began. The Prussians held a strong position. The wood is densely timbered to the very edge. The bank of the road which skirts it gave good protection; and the slopes in front are smooth and easy; all supports had, however, been drawn into the fighting line; nor was there any reserve to meet the out-flanking movement of the 2nd Line.

Attacked fiercely in front, and its left threatened by superior numbers, the 39th gave way. Ammunition had begun to fail, the commander and several officers had fallen, neither supervision nor unity of action was possible in the wood, and the First Battalion, which had borne the brunt of the flank attack, was driven in disorder down the slopes, and across the valley to the Winterberg. The 2nd Line, led by General Doens, made, however, no attempt to pursue

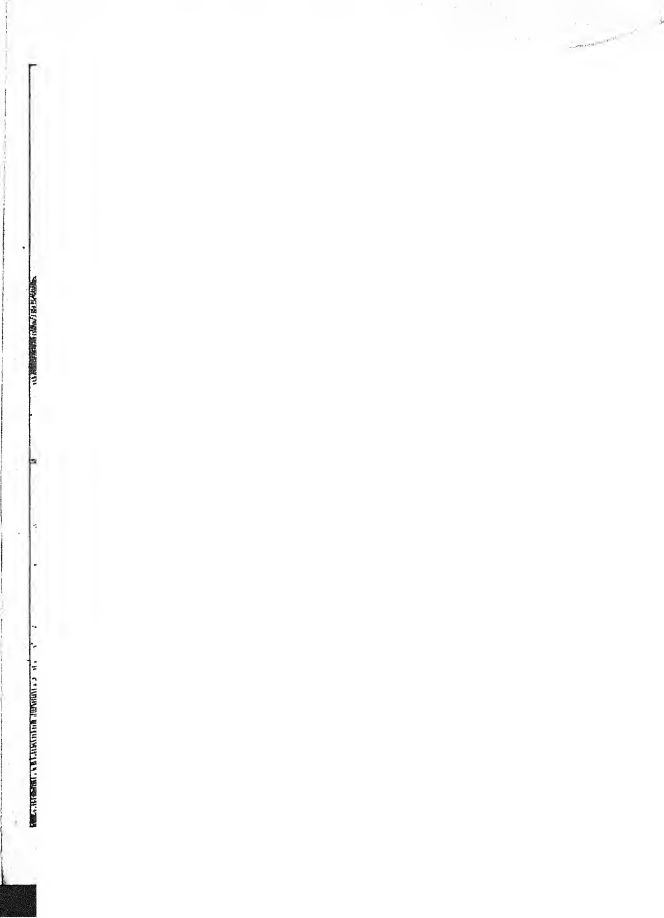
the Fusiliers across the open; but, lining the lower border of the wood, was content to ply their broken files with a devastating fire.

Further to the right, the three companies of II/39 yielded likewise to stress of numbers. A portion had already reached the valley in retreat; the 7th Company was still clinging stubbornly to the crest; in face of the superior force of the enemy, defeat seemed imminent, but all at once the hostile fire slackened, and the French, when another moment would have seen the Prussians plunging down the steep descent in flight, drew off to their left, and moved towards the Rotherberg. Relief had come to the little band of Fusiliers from an unexpected quarter, and it must now be related how this fortuitous result was brought about. At 2.30, the battle in the Stiring Copse had been restored in favour of the Prussians by the opportune arrival of two companies of the 74th. On the borders of the Gifert Wood, I and II/39 appeared to be still holding their own. The French batteries, both on the Rotherberg and near the Metz High-road, had fallen back. Strong reinforcements, the advanced guards of the 5th and 16th Divisions, were rapidly approaching St. Johann; and Von Kamecke, therefore, believing that the French were yielding all along the line, or aware that his left wing (I and II/39) was confronted by a far superior force, and therefore desirous of diverting the attention of the enemy, had conceived the bold resolution of renewing the assault upon the Rotherberg.

The Fusilier Battalion of the 74th, with which was the brigadier, still crouched inactive beneath the bluff; but, 500 yards away to the left, the 4th Company, together with 6/39, was briskly engaging the defenders of the spur.

Enfiladed by this fire, harassed by the artillery, and never dreading a frontal attack upon their lofty stronghold, the French Chasseurs had withdrawn to the shelter of the trenches. None ventured to expose themselves above the parapet; none troubled to glance down the steep incline; and the musketry had died away.

With the order from Von Kamecke to assault, came 9/39 across the valley; and, thus opportunely reinforced,





THE ROTHERBERG
from the Galgenberg.

the Fusiliers, Von François leading, mounted the earthen bank, and faced the rugged cliff that towered to the height of near 200 feet above them. From terrace to terrace the toiling groups pushed slowly but persistently up the slope; from bush to boulder, throwing sword and needle gun before them, clambering up as best they might; each man for himself; careless of broken ranks or straggling files; making no halt where quarried bank or clump of cherry trees offered a tempting resting place, but pressing on with eager haste, intent only on reaching the crest which stood out untenanted overhead, on gaining an equal level with the enemy, and on going in with butt and bayonet. It was breathless work this desperate race, the climbers expecting every moment to hear the loud alarm, to see the height above them crowned with a serried line of hostile riflemen, to be caught red-handed in their audacious enterprise, and to be borne backwards, helpless and defenceless, down the steep hill-side.

Fortunately, however, for these 1,000 Prussians no lookout was kept by the Chasseurs; the figure of no single sentinel cut the sky line; and in the din of musketry from the flank and of the shells screaming overhead, the rush of the stormers, the cries of the officers, and the noise of falling stones and cracking brushwood, were unheard. The crest was gained—the men with tired muscles and scant wind—but no warning shout had yet been raised; their approach was undiscovered. And then, whether the French suddenly awoke to their danger as the Prussians neared the earthwork, or whether the spiked helmets and bright bayonets bursting into view above the parapet were the first intimation of the presence of the enemy, there is none to tell us; be it as it may, the surprise was complete, and the Chasseurs gave way in panic. A few, more stubborn than their fellows, struggled bravely for a time, but the mass, flying upwards towards the saddle, took refuge behind an undulation of the higher ground.

In spite of the rolling fire at short range which now assailed them, the Fusiliers rallied quickly round their officers to follow up the first success, and make good their footing on the height beyond.

But the French had recovered from their surprise. Strong supports from the western quarter of the Gifert Wood were hurried to the front, and a sudden and heavy counter-stroke threatened the disordered ranks of the 74th.

But at this moment the 9th Company of the 39th arrived upon the crest.

The "*pas de charge*" of the drum was answered by a rolling cheer. Von François, sword in hand, with a shout of "Forward 39th!" sprang to the front; and, crowded together on the bare and narrow surface of the spur, the men dashed upwards from the trenches. The French advance was rudely checked; but at a terrible cost. Pierced with five bullets the brigadier fell; and the foremost files were swept away by the storm of musketry.

Further movement was impossible. But by the side of their dying general the five companies held fast; and sheltered by the earthwork so fortunately won, opposed a strong front to the repeated attacks of the Chasseurs and 40th from the Gifert Wood; whilst the guns in the valley beat back more than one attempt of the 63rd to descend from the plateau to the saddle.

The surprise which gave the Prussians footing on the Rotherberg was due in part to the nature of the acclivity above which the horse-shoe shelter trench was placed. From the parapet there was command of view and fire over the valley below, but the hill fell away so steeply that the face of this slope could not be seen by men standing within the earthwork. Such a position, as was afterwards demonstrated at Majuba Hill, though apparently strong, is exceedingly unfavourable for defence. Its seeming inaccessibility gives a false sense of security; and, as we have seen, no sentries were maintained within the entrenchments by the French. Had this precaution been adopted, and the stormers been met as they neared the summit by a charge of the whole line, the attack in all probability would have failed disastrously. "*How often in military history has success been achieved by a movement over ground deemed impassable, and therefore left unwatched?*"

The flank movement of the 40th Regiment towards the Rotherberg, on the capture of the trench, was as

injudicious as useless. The 63rd was already in support of the Chasseurs; and in many cases, where the flank of a body of troops committed to a resolute attack as was the 40th is threatened, it is wiser to meet the counter-stroke by a detachment from the reserve, and at the same time to prosecute the frontal attack with even more vigour than before. The object of such a flanking movement is to relieve the front by checking the advance against it. This is what the enemy desires, and this is precisely what he must not be permitted to effect. At the same time, the sudden check to the forward movement may be noted as an instance of the extraordinary influence the mere threat of a flank attack has upon troops operating in thick woods or in country where the view is limited, and neither the extent of the danger nor the means of meeting it (*i.e.*, the supporting forces on the threatened flank), can be seen by the men in front.

Meanwhile, on the withdrawal of the French battalions immediately opposed to them, the 5th and 7th companies of II/39, together with two sections of the 3rd Company, which had escaped the discomfiture of the First Battalion, re-occupied the ridge within the Gifert. Nor, although a much larger force was in their neighbourhood, was any vigorous effort made by the French to thrust them from their point of vantage.

When the left of the Prussian line broke and fled, the two battalions of the 2nd Line had descended as far as the lower border of the wood. If they had then entered the valley, and, wheeling sharply to the left, whilst the 24th attacked the little force within the Gifert Wood, had swept along towards the Rotherberg, the remnants of the 39th (including the 6th company and 4/74 which lay in the open) must have been driven back; the stormers of the spur, assailed in front and flank have been compelled to withdraw; and the line of guns from the Galgenberg, notwithstanding the presence of the cavalry in the Ehrenthal, have been exposed to imminent risk.

But at this juncture the promptitude of the German

generals bore good fruit. At the first alarm of battle, without waiting orders, they had hurried their batteries and battalions to the front; and, as General Doens, in pursuit of the broken 39th, reached the lower outskirts of the wood, a dark line of infantry (the 48th regiment, van of the 9th Brigade, 5th Division) was in the act of deploying upon the Saarbrücken Ridge. The sight held back the French. Leaving a thin line of skirmishers to occupy the depression between the Gifert and the Pfaffen Wood, Doens drew back his two battalions to the plateau, and the attack, which should have been pressed with the utmost vigour, was suffered to lapse into a desultory skirmish.

Laveaucoupet's troops were now disposed in the following order:—On the right, II and III/2; prolonging the line in a north-westerly direction; through the Gifert Wood, I, II, and III/40; on the Rotherberg the 10th Chasseurs; the 63rd north of Spicheren, in second line upon the left; the 24th upon the right, outside the wood. The battery, together with the mitrailleuses had already withdrawn to the Spicheren Ridge, but the remaining six pieces of the divisional artillery were still posted 200 yards north of Spicheren Village, and below the eastern slope of the Spicheren Knoll.

On the Prussian side, the 48th Regiment, of which the 2nd Battalion had not yet reached the ridge, arriving in time to witness the disaster of their comrades of the 39th, was immediately disposed as a defensive line. The 3rd and 4th Companies occupied the ravine between the Nussberg and the Winterberg; the 1st Company, the Reppertsberg; the 4th Company, the height above St. Annual. In the rear was the Fusilier Battalion, formed in two lines. A squadron of the 12th Dragoons watched the river road. The 3rd Light Battery had taken post on the Winterberg; and the 1st Battalion of the 39th was gradually assembling, after its flight across the valley, at the foot of the slopes. Thus, two battalions and six guns (for the First 39th could scarcely be considered as effective), were all the troops at hand to hold the Saarbrücken Heights and the bridges against a counter-attack from the Gifert and St. Annual Forest.

Fortunately, however, for the Prussians, both circumstances and ground were in their favour. Before the French

could advance across the valley, the Rotherberg must be re-won. It was impossible to prepare the attack on the position held by the 48th with artillery. Time would have been lost in bringing down a large force of infantry through the Gifert, and in moving a flank detachment through the St. Arnual Forest, and long before such an operation could have been completed, strong reinforcements would have arrived upon the ridge.

It is worth while remarking the many obstacles to the counter-attack in a rough wooded country.

Not the least of these is the impossibility of the General-in-Chief obtaining a clear view of the situation.

THE BATTLE IN THE VALLEY. 2.30—3.30 P.M.

At 2.30, the Prussians in the Stiring Copse began once more to press back the enemy's first line. As the advance progressed, the two and a half companies of I/74 took post upon the right, leaving the left to the three companies of III/39.

II/74 had, meanwhile, resumed its attack upon the Coal-pit Ridge. Three companies, with their marksman's sections extended, forming the fighting line; the fourth was near the railroad, in reserve.

Towards 3 o'clock, a portion of the 53rd Regiment, of the 28th, Von Woyna's Brigade, came up in the rear; and working along the edge of the clearing, drove back a hostile detachment and menaced the left flank of the defence. The skirmishers of the 74th then charged across the open and carried the ridge and the adjacent buildings, the battalion of the French 77th retiring to Old Stiringen. A company of the 74th occupied the coal-pit and the houses, extending its skirmishers as far as the forest on the right; two companies held the cutting on the road; whilst the fourth moved up to the foot of the slope. At the same time 1 and 4/77, of Von Woyna's Brigade, approached the right of the 39th within the copse.

Although the Prussians were in reality rather inferior in

strength to the garrison of Stiring Wendel, General Vergé, commanding the French left wing, was so impressed by the vigour of their attack that he had already called upon Frossard for support; and very shortly afterwards the 3rd Chasseurs, influenced probably by the capture of the coal-pit, abandoned the copse, the southern border of which was immediately occupied by III/39.

The two and a half companies of I/74, which had hitherto been fighting alongside the Fusiliers, issuing from the western edge of the wood, attempted to prolong the line to the right across the railroad, but were severely handled in doing so by the French guns, east of Stiring Wendel, and by heavy musketry from behind the heaps of slag and refuse in front of the foundry. To oppose the latter, the captain of the 1st Company led half his command forward through the swamp, the men sinking to the hips in the miry ooze; and in spite of the enemy's fire, seized a house upon the railway close to Old Stiringen. From both storeys a flanking fire was brought to bear upon the French before the forges, and the remainder of the two 74th Companies were enabled to gain shelter in the wood at the foot of the Coal-pit clearing.

The fire of the 39th from the southern border of the copse soon compelled the four* batteries posted on the Spichern-Stiring Wood to limber up and retire. An ammunition waggon blew up, five guns had to be abandoned owing to casualties amongst the teams, and two batteries were rendered useless. The German Staff History attributes this achievement to I/7 which had advanced to its third position, the centre knoll of the Folster Height, about 3 o'clock, after the withdrawal of the hostile guns from the Rotherberg; but Frossard distinctly states that as the Prussian infantry progressed through the copse they took the guns in flank, and killed a great number of both men and horses. He further fixes the time when this took place by adding that a caisson exploded, and increased the confusion. The south-west corner of the Stiring Copse is little more than 500 yards from the road, and the range was, therefore, all against the artillery. The remaining pieces, nineteen in number,

* A 12 pounder battery from the Reserve had shortly before arrived.

withdrew to a safer distance, and were joined by General Valabrègue, commanding the cavalry division, whom Frossard had sent forward to fill the gap between Stiring Wendel and the Spicheren Heights with a battery of horse artillery, and four squadrons, two of the 4th Chasseurs, and two of the 7th Dragoons. The cavalry were posted behind Stiring Wendel.

At the same time, in answer to Vergé's request for reinforcements, the 32nd Regiment arrived from Forbach. Two battalions were brought up to the foundry; the third remained in reserve within the village.

The battalions of the extreme French left wing now numbered nine, or nearly 6,000 infantry. Opposed to them, in the fighting line, were 11 $\frac{1}{2}$ Companies. Part of the 28th Brigade had now come up, and formed the support; II/77 in the centre of the copse; on the northern border, F/77; and working through the forest beyond the coal-pit, I/53; making a total of some 5,000 bayonets.

The other half of the 28th Brigade, F/53 and 2 and 3/77, cut off by the thickets of the Saarbrücken Forest, was still some distance from the scene of action; and it will be well if we now follow the movements of Von Woyna's regiments.

28TH BRIGADE.

The 53rd (two battalions) leading the march, had reached Rachspfuhl at 12.15. Here the brigadier received instructions from Von Kamecke to cross the viaduct, and attack the enemy's left. By 1 p.m., the foremost regiment had completed the passage of the river. The 1st and 4th Companies were in front; the 2nd and 3rd, and the 10th and 11th as half battalions, both commanded by lieutenants, in second line; the 9th and 12th as reserve, under the regimental commander. Advancing along the road beside the railway, the edge of the clearing below the coal-pit was found in possession of II/74, for the ridge had not yet been carried. General Von Woyna, who accompanied the leading half battalion, resolved to wheel half right; and, passing in rear of the 74th, to seek out the extreme left of the French line. Sweeping round the clearing, the left leaning on the western

border, I/53, as has been already related, drove back some hostile skirmishers, apparently a picquet or detached post of the 3rd Chasseurs, and by threatening the flank of the defence, assisted the capture of the ridge by the 74th. As the enemy fell back, Von Woyna led his troops still further forward through the wood. But, through the tangled undergrowth, the half battalions in second line and in reserve found it exceedingly difficult to keep the general direction. Files were sent out to maintain connection with the leading companies, but much ground was lost, and the Fusilier Battalion, which had sent the marksman's section of the 11th Company left of the railway, to cover the flank, inclined too far to the right, and, after driving back a strong party of the enemy and losing its commander, found itself isolated in the centre of the wood. The leading half of the brigade was thus completely split in two; and we shall now learn not only how a still more decided severance occurred between the leading half and the rear half, but how the latter became completely lost to the control of the brigadier.

The original order to the 77th Regiment had been to follow the 53rd. The 2nd and 3rd Companies had consequently ascended the Schanzenberg at the German Mill and forced their way through the thick and pathless forest in a south-westerly direction. But the 1st and 4th Companies, attracted, probably, by the heavy firing, had proceeded along the railway directly to the front, joining, as told above, the 39th and 74th shortly after 3 o'clock; and thus occurred the first break in the order of march.

When the 2nd and Fusilier Battalions of the 77th, following in the rear of these two companies, arrived at the German Mill they were met by the adjutant of I/74, who, as his battalion neared the Rotherberg, had been despatched by General Von Francois to tell the two battalions of the 77th, visible from the rising ground between the Rotherberg and Drathzug, to attack the western face of the Spicheren Heights. The Second Battalion, therefore, entered the copse shortly before 3 o'clock, and, in half battalion columns held the centre of the wood. The Fusiliers, who in the first instance had followed the 2nd Battalion, quitted the road at Drathzug, and occupied the north-east

corner of the copse, supporting the sections of 3/74 and 12/39, who were confronting the homesteads on the Metz High-road.

The 28th Brigade had now drifted into four distinct portions, with a total absence of all intercommunication or unity of command; and a reference to the sketch which shows the distribution of the German troops at 3.30 reveals a curious state of affairs along the whole line. Although only one division, 10,750 men, was engaged, regiments had already become separated from their brigades, battalions from their regiments, companies from their battalions, and sections, and even half sections, from their companies. It will be well to devote some consideration to the causes and effects of such an extraordinary dispersion, and, also, to the questions of battle formations and brigade leading.

The 27th Brigade, when it advanced to the attack, occupied a front of nearly 3,500 yards. A strong resistance was met with; every rifle was drawn into the fighting line, and the supports had to be furnished on the right by the 28th Brigade; on the left and centre, as will be seen hereafter, by battalions which belonged to different divisions, different Army Corps, and even different Armies.

Now, unity of command throughout the depth of an attack is generally essential to success. The commander, the staff, the regimental officers and men, should be acquainted with each other, so that there may be no doubt or hesitation in the mind of any individual as to whom he is to look to for, or from whom he is to take, orders. Again, it is of the utmost importance that the second line and reserve, on whom the general in charge of the operation relies for his ultimate victory, should be under his own control, and not under that of an independent leader. In the case of the 14th Division, the fighting line was composed of a single brigade, the right under Von Pannwitz, the centre under Von François, the left under the senior officer present with the 39th, each unable, owing to the great extent of the front of battle, to communicate with the other; and as the supporting troops were under independent leadership, unity of command was manifestly impossible.

At 1.30, when the 14th Division had not been engaged for

more than an hour and a half, no general reserve of infantry remained. Every single company had been sent to the front upon the left and centre: and the 28th Brigade, part of which was already committed to the turning movement, could only have been made use of on the right. But a line of troops without support or reserve, which has made little impression on the enemy, is in a very perilous position, and if the enemy is in greater strength and acts with determination, will be easily defeated, as was proved by the expulsion of the 39th from the Gifert Wood.

Von Kamecke erred in allowing Von François to attack on too broad a front.

The engagement at Spicheren, even before a shot was fired, promised to be something more than the mere brushing away of a trifling detachment, or the driving back of a small rear-guard; for, besides cavalry and guns, the presence of at least three regiments of hostile infantry, a force superior to the 27th Brigade, to which the assault was entrusted, had been reported.

Under such circumstances, even if a rapid attack was deemed essential, time would not have been wasted had the 53rd Regiment been first brought up to the Drathzug, and the battle on that flank committed to Von Woyna, the left attack to Von François, and the 77th Regiment brought up to the Saarbrücken Ridge as a general reserve. If the French had fallen back at once, the pursuit, with each brigade concentrated and in hand, would have been so vigorous as to compensate for time lost in adopting a suitable formation. If they retained their ground, the suggested disposition would have secured a unity of command throughout the length and depth of the attacking force. Each brigadier would have an objective proportional to the number of men that he commanded; have been enabled to retain his own reserve; and much of the subsequent confusion, loss of tactical order, and impossibility of manœuvring, would have been avoided.

When the 28th Brigade arrived upon the Prussian right, there were two brigadiers upon the scene, Von Woyna and Von Pannwitz, the latter in command of the two-and-a-half battalions of the 27th Brigade engaged in a frontal attack on Stiring Wendel.

Von Pannwitz had already deployed his whole force. Von Woyna, bound on an independent enterprise, that of threatening the enemy's left, ordered his whole brigade to follow him through the Saarbrücken Forest; a movement which, had it been carried out, would have left Von Pannwitz absolutely without support. Again; owing to Von François' action in calling on the 77th Regiment, (Von Woyna's command), to attack the Spicheren Heights, the greater portion of the 28th Brigade slipped away from the control of their own commander in a fashion, which, as will be seen hereafter, brought his efforts to naught, and reduced the battle of the right wing to a series of independent and isolated attacks, not wanting in resolution, but lacking the strength and energy of united action under a single head. In fact, the projected turning movement of the French left by the whole of the 28th Brigade, luckily frustrated by Von François' summons to the 77th, was injudicious. It is true that the appearance of the leading battalion on their flank brought about the evacuation of the Coal-pit Ridge; but five battalions, the number Von Woyna intended should be employed, was, far too large a detachment; and one, which, had he himself been placed in sole control of the right attack, would, in all probability, never have been permitted. It was dangerous in the extreme, had the French force been even smaller than it actually was, to leave Von Pannwitz without support.

Flank attacks are most certainly the surest means of bringing about the evacuation of a position and the enemy's defeat. But the principle, if its adoption absorbs too many troops in the firing line, as proved by the somewhat critical situation of the 14th Division between 2 and 3.30 o'clock, involves the greatest risk. Such attacks are dangerous unless the assailant has a superior force; that is, it is dangerous to enclose the adversary's position with a thin weak line. A flank attack necessitates, as a rule, an extended front; but that front must be strong in all its parts; or, before the turning movement can take effect, the centre or elsewhere may be pierced by a counter-stroke. Against commanders of inferior capacity, even when there is little disparity of numbers, such manœuvres may be successful; against troops whose

leader possesses a practised tactical *coup d'œil*, they will but renew the disasters of Austerlitz and Rivoli, of Rossbach and Salamanca.

As to the question of brigade-leading, Von Woyna's advance of the 28th brigade is a remarkable instance of the difficulty of holding a brigade in hand in a wooded country, when troops are engaged in front ; and, also, of the embarrassments which may arise from the independent action of subordinate leaders. Von Woyna directed his five battalions after crossing the viaduct, to enter the Saarbrücken Forest, and to seek out the enemy's flank. The First 53rd, which he himself accompanied, followed his instructions, and struck the clearing north of the Coal-pit Ridge. Finding that the French left extended further than anticipated, he sent back orders to the 77th to bear more to the south-west. The two leading companies obeyed ; but the remainder of the First Battalion moved along the railway, and joined the direct attack on Stiring Wendel. The two other battalions, presumably as they were about to wheel to the right and enter the Saarbrücken Forest, received at 1.45 Von François' request for support ; moved directly to the front, and reached the copse shortly before 3 o'clock. But at 4.30, nearly three hours after they parted company with their own brigade, General Von Woyna, as we shall learn, was not only ignorant of the fact that two-and-a-half of his five battalions had thus disposed of themselves, but had to retire from a forward position he had taken up on the enemy's flank, because he had no available reserve.

It has been said that the projected turning movement with an entire brigade was injudicious ; and Von Woyna's subordinates, better informed as to the situation than their brigadier, acted wisely enough in bringing aid to the troops within the copse on their own responsibility. But that their commander should have been left without intelligence of this diversion, which withdrew half his force from his disposal, is a circumstance scarcely capable of satisfactory explanation. At the same time, the paucity of staff officers in the German Brigade, viz. : one brigade-major and one aide-de-camp for a force of six battalions ; and of mounted officers, other than captains of companies, in the German

battalion, may be held accountable, in some degree, for the absence of all communication between the brigades when once engaged, and between the various portions into which each became dissolved. The lack of messengers might, however, have easily been met, had a few troopers from the large force of cavalry been placed at the disposal of the regimental commanders.

The difficulty of maintaining connection between the five battalions of the 28th brigade was, of course, greatly enhanced by the sudden divergence of the two leading companies of the 77th from the general direction. But even between the half battalions which followed the brigadier, connection was ultimately lost, although the expedient of linking the columns by a chain of men was adopted by the 53rd. The incident is worthy of notice; and it may be remarked that, for the passage of troops through a thick and extensive wood, the same precautions appear necessary as for a night march; and also, that in battle, a large staff is by no means an encumbrance.

It has been lately suggested by an Austrian officer that a certain number of mounted men should be trained and employed by each infantry regiment (3 battalions). They are preferable, he states, to orderlies taken from the cavalry, for they look at things with the eye of the foot-soldier, they would be acquainted with officers and men, trained with the regiment, and accustomed to the work; there would be no difficulty about their rations and quarters, and their presence would relieve the cavalry commanders from the hardship of losing some of their best men when they are most wanted. The author illustrates his ideas by the advance of the 77th Regiment into Stirling Cope.

"Let us suppose," he says, "that the colonel of the 77th had had twelve mounted infantry soldiers at his disposal. It is probable that one would have been with each battalion commander, one with the massed ammunition column of the regiment, one with the transport. After crossing the viaduct, three men might well have been sent off to maintain connection with the 53rd, the leading regiment of the brigade, now rapidly advancing; two to the drill-ground and to the west side of the Galgenberg. By means of such an

arrangement it is probable that the two regiments of the 28th Brigade would not have become totally separated from each other. The splitting up and dislocation of the leading battalion of the 77th would have been still more difficult, to say nothing of the total disappearance of these two portions for something like two hours.

Let us, however, leave matters as they occurred, until the period when the wounded adjutant of the 74th, in accordance with the instructions from his brigadier, requested II and F/77 to eject the enemy from the copse, and afterwards move towards the Spichen Heights. At this period the 77th had lost touch with the 53rd Regiment, with the General commanding its own, the 28th Brigade, and even with its own First Battalion.

In deciding to comply with the request of the wounded adjutant, the colonel broke the order of march of the brigade, and the 77th, no longer formed its rearmost regiment. His next duty was a careful preparation for the entry of his regiment into the action. This consisted in:—

1. Calling together the separated portions of his regiment.
2. Reconnoitring to the front in the direction of the copse.
3. Reconnoitring to the left in the direction of the Folster Heights and Galgenberg.

The last was necessary in order to obtain information from the neighbouring troops as to the state of affairs.

Intelligence as to the position of the batteries and the object of their fire was also necessary, for some idea of the ground available for the advance of his regiment would thereby be obtained.

Of less pressing importance, but still necessary, were:—

4. Orders to the ammunition waggons and the transport.
5. A report to the brigadier.

To recall the First Battalion two, or better still, three mounted men would be sent, as the thick forest was likely to enhance the difficulty of finding it.

Through Drathzug towards the copse it would be necessary to send at least two, if not three, of the sharpest men,

This was the most important direction, for it was there that the fighting was going on, and the copse was the immediate objective.

Two mounted men would also be sent to the Folster Height to obtain information from the troops there about the fight, and to examine the ground with a view to the regiment approaching the copse under cover. One to return with the report, the other to remain out in front.

It would also be desirable to send a mounted man with orders to the ammunition waggons to close up and follow the regiment, and to direct the regimental transport to halt north of the viaduct ; and also to despatch another orderly with either a verbal or written report to the brigadier acquainting him with the contemplated action of the regiment.

It is possible that had the mounted orderlies been employed in this manner the 77th would have come up into action some minutes later, but it would have come in in a more compact body, and with more knowledge of what was going forward, and with consequently greater effect. At any rate, the colonel would have remained in command of his regiment for a longer period. The Staff History is silent as to the action of the colonel. He and his adjutant probably watched helplessly the gradual splitting up of the regiment.

It may be added that these mounted men would facilitate the transmission of intelligence from the fighting line to the General Commanding, a matter of the utmost importance but generally overlooked. For instance, when I and II/39 gained the southern border of the Gifert, and the French camps and masses of hostile infantry were revealed, the information should at once have been sent back to Von Kamecke.

In the Wilderness campaign of 1864, General Grant, in command of the Federal Army, was well served by a civilian who volunteered to visit certain points in rear of the line of battle and to make rough sketches of the progress of the action. These sketches, sent back at short intervals to headquarters, proved of the utmost value in enlightening the commander as to the strength and intentions of the enemy.

It cannot, indeed, be said that the attack of the 14th Division was carried out with the precaution, the method,

and the judicious arrangements which the incessant practice and sound training of the Prussian army would have led us to expect. But it was the initial mistakes of the general in command, the failure to push reconnaissance, the precipitate rush forward, and the neglect of careful dispositions for battle that were the true cause of the derangement of tactical order which ensued ; and, " he who has never made mistakes has never made war."

We may take warning, therefore, from Von Kamecke's errors, grasping the truth that simple go-ahead is a very different thing from initiative ; but it will be more to the purpose if we mark and take to heart the determination of the attack in every quarter of the field ; the resolute leading of the subordinate commanders, the readiness with which each grasped the spirit of the enterprise and the end to be achieved, and, when left to their own resources, and unable to communicate with their immediate leader, went about that achievement without hesitation or delay ; the skilful co-operation of the artillery ; the strong support that infantry afforded infantry ; the rapidity with which the weak points of the defence were marked and seized, and the errors of the commencement redeemed by the tactical adroitness of the regimental officers and the stubborn hardihood of their men.



CHAPTER VII.

THE BATTLE OF SPICHEREN—(CONTINUED).

AFTER 3.30 P.M.

THE BATTLE ON THE PLATEAU. 3.30—5 P.M.

General Von Goeben, commanding VIII Army Corps, had arrived upon the Reppertsberg about 3 o'clock, and, as the senior officer present, had assumed direction of the fight.

At this time the dense columns of the French reserve Division could be seen from the drill-ground descending the Pfaffenberg towards Spicheren; and the day was not many minutes older when the Gifert Wood disgorged the broken companies of the 39th.

On the right wing the battle was going well, and the French were in the act of falling back on Stiring Wendel. But on the left and centre, despite the fact that the Fusiliers of the 74th had won the crest of the Rotherberg, and that II/39 still clung to the ridge within the wood, it was evident that, without strong and speedy help, the position on the heights, held by not more than 1,800 rifles, could not be long maintained (22). Von Goeben, therefore, determined to use every rifle of the fast-arriving reinforcements to restore the fight upon the plateau.

At 3.15 came the 9th Hussars and two batteries of the 16th Division. The cavalry was sent to the Ehrenthal; the guns to the Galgenberg, where they took post on either side the high road, and concentrated their fire on the mitrailleuse battery, which, after the rout of the 39th, had advanced to the south-west corner of the Gifert Wood.

Ten minutes later, two battalions of the 48th Regiment, the van of the 9th Brigade, deployed along the ridge. The divisional commander, Von Stulpnagel, as well as the Brigadier, Von Doring, were both present; and the former, so soon as it was clear that the French had no intention of pressing the pursuit of the 39th across the valley, led the First and Fusiliers of the 48th towards the saddle which connects the Gifert with the Pfaffen Wood. It was evidently considered that a flank attack was the surest means of diverting the attention of the enemy from the slender force upon the Rotherberg (23).

The 48th advanced in a deeper and more compact formation than was generally the case with the Prussians at Spicheren or elsewhere.

The 9th and 12th Companies, in line of company columns at 80 paces interval, with marksmen advanced, led the way.

The 10th and 11th Companies followed as a half-battalion in second line.

In rear of all came the First Battalion, also in half-battalions.

To this distribution may be attributed the fact that the 48th preserved its tactical cohesion during the heavy fighting which followed its advance up the heights; that the companies, well in hand—for the front was small—showed no disposition to drift asunder, and that reserves were forthcoming when they were required. The old rule of a formation in three distinct lines once more proved its efficacy.

Even before the two battalions left the ridge the fire of the French skirmishers in the opposite woods was felt, and men were wounded at a range of 2000 yards; and as two leading companies of the Fusiliers (the 9th on the right, 12th on the left) neared the foot of the thinly-wooded slope the enemy's musketry became so lively that the men broke in to a double, and the 12th company diverged to the left in order to gain the shelter of the timber. The French skirmishers, covering the withdrawal of Doens' battalions to the crest, retreated upwards to the saddle between the woods; and, although they fired heavily on the disordered line, as, using their hands to assist them, the Prussians scaled the hill, the steepness of the slopes, bare as they were beneath the gap,

effectually protected the assailant ; for the 9th Company, which faced this portion of the ascent, lost but few men until they reached the plateau. Here, the supporting section was sent forward to turn the enemy's left ; and the French skirmishers fell slowly back towards the Pfaffen Wood. The 12th Company followed through the thickets, but the French held fast to the southern quarter of the wood, and, at 5 o'clock, were still opposing a strong front.

The companies in second line, 10 and 11, losing their commander before they left the valley, were ordered to incline to the right, and to ascend the hill along the eastern edge of the Gifert Wood. A section of the 11th Company, which had been sent out to cover the left flank of the first line, did not hear the order for the change of direction ; and, moving straight to the front, followed the 12th Company through the Pfaffen Wood. Within the covert, the subaltern in command sub-divided his little force into two sections of 30 men each. Giving charge of the second section to another officer, he himself joined the firing line of the 12th Company, and remained with it to the close. It is significant that the leader of the half-battalion in second line was very soon able to form the stragglers into a section, which he seems to have retained in rear with the section that formed the escort to the colour. The latter section he divided into two ; and it is worth while noticing the care the Prussian officers invariably took to form even the smallest units into a firing line and support.

At 4 o'clock the greater part of the 40th Regiment, the heroes of August the 2nd, and the foremost infantry of the 16th Division, ascended the Reppertsberg. The first six companies were immediately set in motion towards the Rotherberg ; the remainder to the Gifert Wood, in order to fill the wide gap which existed between the 48th upon the extreme left and the 74th upon the spur—an interval hitherto occupied only by two companies outside the wood, 6/39 and 4/47, and by the three companies of the 39th on the crest above. The regiment, before it was ordered to march on Saarbrücken, had been already distributed in the villages it was to occupy for the night ; and, on being directed to the front, had pushed on without concentrating, by half-bat-

talions. Thus, about an hour after the arrival of the first half of the Third Battalion, the 10th and 11th companies came up and were ordered to support the other two.

The railway had already brought from Neunkirchen General Von Alvensleben, commanding III Army Corps of the Second Army, and I/12th Grenadiers of the 10th Brigade, 5th Division. The general galloped forward to the Reppertsberg; and the battalion, on its arrival shortly after 4, was sent forward to the right rear of the 40th, in the direction of the Rotherberg. At 4.30, nearly half-an-hour later, II/12, which had been also conveyed by train, reached Saurbrücken. And now, as the rest of the 9th Brigade was approaching through St. Johann, II/48, which had reached the ridge before 4 o'clock, and had been hitherto retained as general reserve, was ordered to advance from the Winterberg, and to occupy the space which intervened between I and F/48 and the troops proceeding from the Reppertsberg. II/12 was ordered to take the same direction.

Thus, eight battalions, less one company, * a strength of 7,750 rifles, moved out at different intervals between 3.30 and 5 o'clock, to support the 1,800 Prussians who had won a footing on the Spichenen Heights; but the French opposed to them, Laveaucoupet's entire division and Bastoul's powerful brigade of the reserve division, numbered 12,000 men; of whom twelve battalions, over 7,000 rifles, the 24th, 40th, 63rd, 10th Chasseurs, and II and III/2nd, were either in front line, or in close support; and the advantages of position lay with the defence.

During the advance of the German reinforcements, the contest on the plateau was confined to the Rotherberg, where the five companies of the 74th and 39th held the shelter-trench under a heavy fire of musketry, and against repeated counter-strokes of the French 40th, Chasseurs, and 63rd, from the Gifert Wood.

The reverse slope of the earthwork gave the Prussians shelter; and, before them, looking up the spur, stretched the bare and gently rising surface of the saddle, less broad than the front they held, and converging to a narrow neck

* 7/40. Escort to Head Quarters.

with steeply sloping sides. Here was a fine field for the needle-gun; here rush after rush of the hostile infantry was driven back. Still the French were in overwhelming force; supports came thronging up, and it seemed likely that, by mere stress of numbers, they would drive the Prussians down the hill (24).

But, throughout this stubborn struggle, this give and take of staggering blows, the slender line of infantry was not left unaided. The six-and-thirty guns upon the Galgenberg and Folster Height, having driven back the hostile batteries, gave stout support. Two of the batteries, those on the left flank, searched out the main plateau, and swept the Forbach Road. The three in the centre played upon the Toll House and the Golden Brenm, at a range of 2,000—2,500 yards; whilst $\frac{II}{7}$, which had taken post on the Folster Height after 3 o'clock, thus flanking the approach to the Rotherberg by the saddle, appears to have made most effective practice. Hostile guns which attempted to come into action on the western crest of the plateau were speedily overpowered*; of the mitrailleuses, which had sought a new position on the spur above the Golden Brenm, two were dismantled, and the battery was forced to withdraw towards Spicheren. And, more than all, a keen look-out was kept upon the French infantry. Several times Lavaucoupet's second line attempted to cross the saddle and rush down upon the 74th; but immediately his masses showed upon the crest, front and flank were rent by shells; and the shattered columns, for the very nature of the ground forced the troops into a compact formation, dissolved and disappeared.†

A little later, Captain Seton, who was still accompanying VII Army Corps, reached the Galgenberg. "While "the fresh infantry," he writes, "passed by the "left of the batteries and entered the forest, I stayed "with the artillery and watched their practice, which was "now directed principally against unseen batteries on "the plateau, the trenches at the head of the ravine (the

* There is no mention of this in French records, though those of the Artillery are sufficiently full.

† $\frac{III}{8}$ had come up before 5 o'clock, and moved to the Galgenberg with 3 but did not come into action, space being limited.

"Spicheren Knoll), between the salient and the Spicheren Wood, the reserves in rear, and against visible batteries in the Forbach Valley.

"It was not safe to shell the wood in front and half-left, for any time after the troops had entered it, for the distances which they from time to time penetrated were not definitely marked by the musketry smoke rising above the trees. It was a beautiful sight to watch the working of these guns—I mean the morale of the service in particular. What I admired was, in the presence of so much temptation to fire rapidly, the care and deliberation with which the distances were estimated, and with which each gun was laid; then the trouble taken, and the time allowed, to watch the effect of a shot before another was fired. The practice struck me as very accurate. For instance, a French general with his staff showed for a few minutes on the plateau; as soon as they were observed a shell was sent, which burst amongst, or so close to them, that as the smoke cleared away, the different officers were to be seen galloping off."

The chief command of the German troops changed hands, for the third and last time, when General Von Zastrow, commanding VII Army Corps, arrived at 4.30, upon the field. The dispositions for the future conduct of the fight were, for the most part, mutually agreed upon by the various commanders. Generally speaking, Von Alvensleben, Von Stulpnagel, and Von Doring directed the operations on the left; Von Goeben, Von Kamecke, and Von Barnekow, those by the Reppertsberg and Galgenberg in the centre. The right attack appears to have remained in the hands of Von Woyna and Von Pannwitz.

The dispositions made by these generals, the formations adopted by the reinforcing infantry, the places occupied by the battalions in the fresh line of attack, and the position of the batteries, are indicated in the accompanying sketch.

We have now, for the next half-hour (4.30 to 5 p.m.) to deal with eight battalions, advancing along a front extending from the Winterberg to the Drill-ground Hill, at short intervals of time; and, as there are many points of interest in the doings of each, it will be more instructive to take them

singly. It must first be noted that the French now deemed it advisable to occupy some portion of the lower border of the wood, and to bring the valley under fire; for the thickets which encircle the rim of the deep ravine lying immediately east of the Rotherberg, gradually filled with skirmishers; and, as the Prussians approached, amongst the bushes and broken ground at the head of the winding road which climbs the spur, red *képis* and burnished Chassepôt barrels were plainly visible. Moreover, the fight upon the salient showed no signs of failing; every bullet which flew over the heads of the defenders of the shelter-trench fell within the valley, accompanied by shells both from the batteries far back on the plateau and those south-east of Stiring Wendel. The zone of fire to be crossed by the Prussians was a broad one, and there was no shelter from the storm.

At 4.30 the leading echelon, F/48, upon the extreme left, had, as already stated, reached the foot of the slopes below the saddle between the Gifert and Pfaffen Woods; and, scaling the hill under a brisk fire, had gained ground on the heights above.

The First Battalion was halted behind an earthen bank below; and the Fusiliers, although suffering heavy losses, had, up to 5 o'clock, no need of help. The French skirmishers, probably few in number, and with orders to fall back as the attack developed, assailed in front by the 12th Company, and threatened in flank by the right wing of the 9th, withdrew slowly through the wood.

This phase of the engagement had scarcely opened, when the first half of the Third Battalion of the 40th Hohenzollerns, the van-guard of that regiment, approached the heights, but on the other side of the salient of the Gifert Wood. During its progress across the valley, it received an urgent request from the troops on the Rotherberg for assistance, as they were hard pressed and running short of ammunition.

For more than an hour the five companies on the spur had been left without infantry support. The French, in superior force, occupied two positions; the first an undulation, some 80 or 100 yards above the horse-shoe trench; the second the gun-pits on the most elevated part of the

saddle, close to the corner of the Gifert Wood ; and the wood itself was swarming with their infantry. Here were no less than six battalions—the Chasseurs, I and II/40, and the 63rd Regiment, for General Laveaucoupet had brought the whole of the latter to the front, replacing it on the entrenched Spicheren Knoll by III/2, withdrawn from the right. The French position, was, however, somewhat awkward, for they could not venture on the open saddle without drawing the concentrated fire of the enemy's guns. Moreover, at this moment, a strong line, namely, the 9th and 12th Companies of the 40th, followed by I/12, I and II/40, II/48, and II/12, was fast approaching the ravine to the east of the Rotherberg, diverting the attention of the enemy from the troops upon the spur.

9/40, scaling the northern face, now joined the five companies upon the crest. A sudden rush drove the French from the cover of the undulation ; and, on the appearance of 12/40, which had made a wide circuit to the eastward, upon his right flank, the enemy again fell back, after a short but vigorous musketry action, and sought shelter in the gun-pits and the nearest part of the Gifert Wood. [When 10 and 11/40 arrived about half-an-hour later they were at first directed by the major in command to remain at the foot of the Rotherberg as reserve, but were presently ordered by General Von Barnekow, commanding 16th Division (with whom was Colonel Von Rex, commanding 32nd Brigade, to which the 40th belonged), to join the troops upon the height.]

The First Battalion of the 12th was the next to arrive upon the scene. Advancing from the Reppertsberg, along the Metz Road, it had wheeled to the left behind the Galgenberg, and fronted towards the Rotherberg on the Saarbrücken-Spicheren Road. Here the hostile fire was first felt ; and the 1st and 2nd Companies, extending their marksman's sections and loading rifles, advanced on either side of the road ; the remaining companies forming a half-battalion to the left rear.

At 12—1,300 paces from the enemy's position, within the zone of unaimed fire, men began to fall, not only amongst the extended sections, but also amongst the supports. The regimental commander was struck by a shot ; and his

charger, and that of the captain of the 1st Company, were both wounded.

The flat shelf of the Rotherberg, and the belt of timber behind, were shrouded in smoke. A dark line of figures lying on the verge of the crest, and a few small groups pushed forward to the right front, showed the position of the 74th. The two companies of the 40th had not yet reached the spur; and men were observed waving handkerchiefs on the height as if calling for support. It was evident that the Prussians were hard pressed. The 1st Company, therefore, pushed rapidly forward towards the salient; but the remainder of the battalion inclined too much to the left, facing the mouth of the ravine. The officer commanding sent his adjutant to bring them nearer to the Rotherberg; but the messenger fell mortally wounded, and the order did not reach them. Under the north face of the spur, the 1st Company found cover. Knapsacks were taken off, and the men ascended, but not without loss, for the French riflemen, posted on the border of the wood across the ravine, found means to bring fire to bear upon them.

The top was reached at a critical moment. The 10th Chasseurs and 63rd were issuing from the Gifert Wood in a vigorous effort to drive the Prussians down the hill; but the 1/12, breathless as they were, throwing themselves into the trench upon the crest, assisted the 74th (who had by this time come to their last round), and the two companies of the 40th and 9/39, in beating back the counter-stroke by rapid independent firing.

The charge was pressed with much determination; and it is said that in some cases French soldiers fell within 20 paces of the Prussian line. But the ceaseless drift of lead, which swept the open surface of the spur, shattered the strength of the attack; and, leaving many dead and wounded to mark his course, the enemy withdrew in confusion to the wood and to the gun-pits.

The Second Company, on the left, had moved off in the direction of the ravine; but the captain falling wounded, the lieutenant who had taken up the command drew off to the right and attempted to ascend the spur by the road. So heavy was the hostile fire, that connection between the

extended section and the support was lost; the marksmen inclining to the left, and occupying with a rush a hollow within the ravine, 300 paces from the edge of the wood; the supports diverging to the right. The leading section of the latter, however, exposed to a concentrated fire from hostile skirmishers lurking in the bushes at the head of the winding track, was quickly made to seek cover beneath the log embankment. Here the whole once more extended, and facing the ascent, gradually worked their way towards the crest. But they were without support, cut off from the rest of the battalion; and a sudden volley from the Gifert Wood upon their left sent them plunging down the hill. At the same time they were fired into by Prussian troops approaching from the Reppertsberg, and a private soldier won his Iron Cross by crossing the shot-swept zone and stopping the fire of the advancing troops.

The 3rd and 4th Companies, moving directly on the ravine, extended their marksmen's sections at 800 paces distant. So fierce was the fire they encountered, so great the excitement of the men, that the supports were quickly drawn into the intervals of the fighting line; and the whole, despite the efforts of their officers and the presence of Prussian troops in front, opened fire upon the woods. The Third Company was now sent half-left; but the Fourth on the right conformed without orders to the movement, and the intended divergence of a portion of the force against the enemy's flank was frustrated. Manœuvring was thus found impossible; but to the left front, two hundred paces from the edge of the wood, lay a small detachment of Prussian troops, well sheltered in a hollow. These were 4/74 and 6/39, who signalled, by waving handkerchiefs, that the random fire of 3 and 4/12 was passing in perilous proximity. The two companies rushed forward to share this cover, the officers regaining control over their men during the rapid and disorderly advance.

When they reached the hollow, the 3rd Company received orders to remove their packs; but whilst they were in the act of so doing, a murderous fire from the north-west corner of the Gifert struck the 4th Company in flank.

Movement had become imperative. So, leaving their packs behind, the little force, in size a battalion, and in

crowded formation, rushed pell-mell upon the border of the wood.

The French did not await the onset, but, yielding the edge without a struggle, withdrew rapidly up the cliff. The Prussians followed; but the cohesion of the units, already broken by the scrambling charge, was completely lost on the densely-wooded slope, and the four companies, belonging to three different regiments, became mingled in inextricable confusion.

In this advance against the Gifert Wood, which occupied about fifteen minutes from the time the marksmen's sections first extended, the two companies of the 12th lost 5 officers and 150 men.

The extreme edge of the ravine had now been carried, and, almost simultaneously, the north-western quarter of the Gifert Wood was wrested from the French. II/48 had formed line of company columns at deploying intervals as it neared the heights; and, in this formation, severely handled as it swept forward up the ravine, inserted itself into the interval between the troops upon the Rotherberg and the mixed force whose adventures have just been narrated. Here, as elsewhere, a swift and resolute rush brought about success. The defenders of the wood fell back, and the battalion entered the thickets; the right wing pushing upwards along the western edge; the left, with drums beating and loud cheers, scaling the wooded steep above them, and driving the enemy back to the south-western corner of the wood.

The First Battalion 40th had advanced in half-battalion columns, the right being directed on the Rotherberg, the left on the centre of the Gifert Wood. The former, consisting of the 1st and 4th Companies, reinforced the troops on the eastern crest of the spur and within the western quarter of the wood; the latter, entering the covert far away to the left, came up to the assistance of the 39th still holding the ridge within the wood. Breaking into a line of skirmishers, they endeavoured to push forward through the timber; but the French 24th, together with I/40, held the southern quarter of the Gifert Wood at this point, and against this superior force the Prussians were unable to make headway.

The Second Battalion, 5th, 6th and 8th companies, broke into the forest still further to the left.

II/12, which had only disembarked at St. Johann at 4 o'clock, had, in its advance from the Reppertsberg, taken a direction midway between the Rotherberg and the eastern part of the Gifert, with a view of maintaining the communication between the separated wings of the 5th Division, a duty which had been originally assigned to II/48.

The 5th Company moved on the right of the Spicheren-Saarbrücken Road, the 6th on the left, the 7th and 8th in half-battalion column as reserve. As they neared the ravine the divisional commander, Von Stulpnagel, ordered the reserve to move up on the left of the first line. The northern border of the Gifert had by this time (5 o'clock), fallen into Prussian hands, but the battalion suffered some loss from stray bullets as it advanced across the valley. Before entering the wood, knapsacks were taken off; and when the men, exhausted by their rapid march and the steep ascent, reached the summit of the hill, they found the French still offering a fierce resistance.

Still, at 5 o'clock, the edge of the Rotherberg, the long ravine, and the north-western corner of the Gifert, were in possession of the assailant; whilst to the left, a force composed of II/39, I and II/40, and II/12 had won the ridge within the wood. Nevertheless, the French line, extending across the spur, and bending back at an angle through the timber, was still strongly held.

Of Bastoul's Brigade, one battalion of the 66th had been posted in the Spicheren Wood; but a second, with that of the 23rd, detached from Ponget's Brigade, had moved up in support of the troops within the Gifert. The third, with I/2, remained at Spicheren in reserve. The battery with the brigade was deployed on the spur of the Forbacherberg; and the 67th Regiment, at 5 o'clock, was posted behind the same hill. Thus, allowing for losses, a force of 12,000* French infantry, and 4 batteries, faced the 10 battalions† of the Prussians on the heights. The latter had done little more than gain a footing on the crest; the advanced line of the enemy was still intact. On the left, the village of Stiring Wendel still resisted all attack; but in the very

* 40th, 24th, 2nd, 63rd, 10th Chasseurs, I and II/66, I/23, 67th.

† 48th, 40th, F/74, I and II/12, 6, 7, 8, 9, 3/39.

centre of the field the Prussians had won a distinct success ; a success which appeared trifling at the time, but had, nevertheless, much influence on the immediate issue of the struggle.

THE BATTLE IN THE VALLEY. 3.30—5 P.M.

THE CENTRE.

From the beginning of the engagement, the French Custom House, the Golden Bremm, and the Baraque Mouton, the two latter 1,900 and 2,300 yards respectively, south of the German artillery position on the Galgenberg, had been held by the First Battalion of the French 76th ; and a battalion of the 66th had been placed in support within the Spicheren Wood. Moreover, east of Stiring Wendel, less than 1,600 yards from the Baraque Mouton, and 2,000 from the Golden Bremm, three batteries * were in action ; and not far in rear of the guns General Valarbrègue was present with four squadrons.

The open undulating arable and pasture to the north and east, as well as the wooded slopes behind the buildings was covered with skirmishers. The range was but 1,200 yards to the corner of the Rotherberg, and the western face of the heights was thus effectually flanked. However, from their post upon the Galgenberg, two of the six German batteries had for some time directed their fire upon the homesteads, and prevented the French from occupying them in strength.

At 3 o'clock, 5 Prussian companies, viz. : half of 12/39, a section of 3/74, and F/74, were facing this advanced post ; and 7/77, detached from the Second Battalion in the centre of the Stiring Copse, was soon afterwards ordered to join them (25).

With the advent of this force, the leading sections, 12/39 and 3/74, whether under superior orders, or on their own initiative, began to move forward in the direction of the Custom House. Colonel Von Pannwitz, commanding 74th

* The two batteries which had lost guns had been withdrawn, and also the mitrailleuses.

Regiment, and, after Von François' death, senior officer of the 27th Brigade, now ordered F/74 to advance in support, and himself took charge of the attack. The Stiring Copse had already been evacuated by the enemy. The 28th Brigade had come up on the extreme right; and the defenders of Stiring Wendel showed no disposition to attempt a counter-stroke. It appeared, therefore, to the brigadier, that the time had come to carry out the original order issued by Von François, *i.e.*, to attack the western face of the Spicheren Heights.

The progress of the attacking line was slow, 7/77 losing all its officers; but the French were much harassed by the fire of the Prussian artillery, and ground was slowly gained. Ascending the first slope of the rise which culminates in a round open ridge 400 paces from the Golden Bremm, Von Pannwitz formed F/74 into two half-battalion columns, directing the left against the tavern, the right against the farm.

As they topped the brow they were received by a murderous fire of musketry and artillery. Of the right half-battalion the commander and a hundred men fell in a few minutes, but the battalion leader placed himself at the head, and, with drums beating, the whole force dashed down the grassy slope. The French skirmishers fell back to the buildings, but the 74th pressed so closely upon their track, that the outer walls were scarcely manned before the enemy had reached them. The fight was stubborn, but the French tactics were weak; supports were wanting, no counter-stroke was made, and, before 4 o'clock, after a fierce struggle, both the Golden Bremm and Baraque Mouton had fallen to the Fusiliers, the enemy taking refuge in the Spicheren Wood, whence he assailed the homesteads with a bitter fire. The Custom House had already been seized by the mixed detachment which had originally formed the first line of attack.

Accounts of this daring, but somewhat fortunate, exploit are nowhere to be found in detail; but it is very evident that the flanking fire of the German batteries greatly weakened the resistance of the defence. At the same time, the efforts of the French were by no means commensurate

with the importance of the post. The buildings, massive and substantial, were not prepared for defence ; and, when stormed by the 74th, no attempt was made to re-take them by an instantaneous counter-stroke.

Exposed as they were to a heavy shell-fire, their continued occupation was only harmful, the defenders were therefore rightly placed well to the front. But, when the advance of the German infantry masked the fire of their batteries, a body of men should have been at once thrown into the houses ; and from the very commencement of the action, a reserve should have been drawn up beneath the wooded slopes in rear, ready, either to manœuvre against the flanks of the attack or, if the post fell, to deliver a counter-stroke before the intruders had recovered from the confusion of their successful onslaught.

The Fusiliers, on seizing the buildings, in spite of the heavy fire poured upon them at short range from the overhanging heights, immediately began to prepare them for defence. The battalion lost during this attack, 7 officers, 17 non-commissioned officers and 215 men, one-fourth of its strength.

By this time, the greater part of Bataille's Division had arrived upon the field ; and it appears that whilst Bastoul's Brigade, together with a battalion of the 23rd and a battery, were directed to the plateau, Pouget's Brigade, accompanied by the two remaining divisional batteries, had joined General Vergé in Stiring Wendel ; the two battalions of the 23rd taking post in the southern quarter of the village, the 8th Regiment, outside, to the south-east, in reserve.

A large force was thus present in the immediate neighbourhood, but neither infantry nor artillery were employed in resolute combination to oust the enemy from the homesteads.

It may be noted, at the same time, that but two batteries of Frossard's large artillery reserve (six batteries) had as yet been brought into action.

A glance at the contoured map shows that a long ridge rises between the homesteads and the Stiring Copse. It was by taking advantage of this cover, and probably by advancing up the re-entrant, the crest of which is little more

than 400 paces from the homesteads, that the Fusilier Battalion of the 77th was enabled to make its decisive charge.

It will, also, be noticed that the exposed flank was nearly 1,500 paces distant from Stiring Wendel, and was protected in that direction by rising ground. It may be questioned, also, whether the French Cavalry, if a look-out had been kept, had not here an opportunity.

THE BATTLE IN THE VALLEY.—3.30 – 5 p.m.

From 3.30 to 4, no material change took place in the state of the fight round Stiring Wendel.

That portion of the 28th Brigade which had followed Von Woyna, leaving the Coal-pit Ridge and the nearest houses of Old Stiringen in possession of II/74, had advanced still further into the forest in a south-easterly direction, still driving before it small hostile detachments. This wide turning movement appears to have alarmed General Vergé. Fearing for his communications with Forbach, he had demanded further support from Frossard. Towards 4 o'clock, in compliance with his request, the 55th Regiment came up from the Kaninchenberg and two of the reserve batteries from Forbach.

About the same hour, Old Stiringen fell into the hands of the Prussians; the attack being carried out by II/74, 4/77, two companies of I/74, and a detachment of F/53, this last being probably the marksmen's section of the 11th Company, which had been detached in order to secure the left flank during the progress of the battalion through the forest.

4/77 now occupied the nearest houses on the other side of the railway.

Meanwhile, along the southern borders of the Stiring Copse the tide of battle ebbed and flowed.

At 3.30, the three companies of the 39th, together with 1/77, held the outskirts; but General Vergé, the 32nd having come to his assistance, had already initiated a counter-stroke.

A heavy fire of artillery and musketry was poured upon the timber; and then Jolivet's Brigade, leaving the 32nd and 55th in Stiring Wendel, broke forward from the foundry. More than once the steady fire of the Prussians drove them

back, but at length the defence yielded, and by 4 o'clock the French had re-won the outer edge, and were pressing forward through the beeches. But their progress was not long continued. The three companies of II/77, hitherto stationed in the centre of the copse, brought strong support to the broken and receding line. Deploying rapidly and filling the gaps between the scattered groups of the 39th, this powerful reinforcement of 750 rifles bore back the French, and at 5 o'clock, Jolivet's troops withdrew once more to Stiring Wendel. On both sides the loss was great; and beneath the spreading foliage of the beeches, the dead and dying lay in scores.

The 39th and 77th re-occupied the border of the copse, 6/77 taking post behind an undulation outside the eastern edge, thus securing the left flank. An effort was made by 5/77 to reach the five guns which had been abandoned by the French; but the assailants were compelled to re-seek the copse without carrying off the prize.

Old Stiringen does not appear to have been menaced by the counter-attack of Jolivet's battalions. After the capture of the Golden Brenm, the garrison which had been driven from it, was placed in reserve between the artillery and Stiring Wendel. Guns were also introduced into the village, one piece into a house facing the copse.

During the period of the engagement, General Vergé had at his disposal the whole of his own division, thirteen battalions, in close support were 3 battalions under Pouget, and no less than seven batteries. Opposed to him were but $2\frac{1}{2}$ battalions of the 27th, and 4 of the 28th Brigade, and we must now advert to Von Woyna's turning movement, which, menacing his communications, had hindered his employing his overwhelming force in a general counter-stroke.

28TH BRIGADE.

At 4 o'clock, whilst the fight was raging fiercely on the borders of the Stiring Copse and round about the foundry, General Von Woyna, accompanied by I/53, was forcing his way through the forest and inclining gradually towards the railway and the Stiring-Forbach Road.

About 4.30, the branch tramway from the coal-pit was struck at the edge of the wood, where it bends abruptly to the south. Here the 53rd, as it formed up for attack, was received by a very heavy fire from the church tower and the village buildings, and several officers fell.

Connection with the Fusiliers had been lost, and their whereabouts was unknown. There was no support at hand, and the enemy was in far greater strength. Von Woyna, therefore, fearful that his isolated battalion would be crushed before help could be attained, and desirous of regaining touch with the rest of his brigade—which he knew not was otherwise employed—decided to retire from his exposed position.

Withdrawing to the wood, under cover of the 4th Company posted on the tramway, the battalion took ground to the left in the direction of the coal-pit. The covering detachment then fell back in the same manner, leaving the marksman's section to protect the retreat.

This small rear-guard was hotly engaged and losing heavily, when F/53, ignorant that the First Battalion had fallen back, emerged into the open between Old Stiringen and the railway station, and prepared to join the attack which 4/77 and the six companies of the 74th were pushing from Old Stiringen. The 9th Company, the whole extended, was ordered to storm the houses and garden on the near side of the railway; whilst the 12th, posted on the skirt of the wood, secured the outer flank; the 10th and 11th forming the reserve.

The assault was successful. The French were compelled to abandon the north-west corner of Stiring Wendel, and to fall back over the railway to the foundry. Between the houses and the foundry yard, the railway cutting was 40 feet in depth, crossed by a narrow bridge. Some men of the 9th Company had already crossed, and the gate of the yard had just been broken in, when the order was received to retire at once. The scouts of the 12th Company, sent out to explore the forest on the right, had reported the approach of hostile troops on that flank.

The houses already occupied were, therefore, hastily abandoned: but not for long. The alarm came to nothing. The 11th Company was ordered to move into the forest to

the right; 2/ and 3/77 having joined the Fusiliers from the left rear, thus regaining touch with their brigade, the senior officer of the 53rd then present combined them with the 9th and 10th Companies of his own battalion, and after a sharp musketry fight once more took possession of the building on the railway. 11/53, driving before it French detachments through the wood, moved on to the glass works, and occupied the ridge in front.

The struggle for Stiring Wendel now resolved itself into a stationary musketry action. About 5 o'clock a mixed detachment of Prussians endeavoured to turn the left flank of the foundry buildings from the railway cutting. But a strong force of French was posted behind the slag-heaps and the railway plant in the yard; and, although the skirmishers came within 70 paces of each other, the assailants were unable to make the slightest progress. Moreover, Old Stiringen and the railway embankment were heavily shelled by the French batteries; and, at 5 o'clock, although the 39th and 77th had re-won the copse, and the outlying portion of the village had been captured, the situation of the Prussian right wing was exceedingly precarious. The French force was more than twice its strength, assisted by seven batteries of artillery, and closely concentrated in Stiring Wendel.

The Prussian companies, on the other hand, so intermingled and spread out as to make unity of command impossible, enveloped the north and west sides of this strong position, and even threatened it in rear; but so long and attenuated was their line, and there were so few officers remaining, that there was little hope of resisting even the semblance of a counter-stroke at any point whatever. Not a single battalion was available for their support, nor could the artillery render help. Guns could not move in the dense woods upon the right, and the batteries were unable to advance from the Galgenberg up the Forbach Valley so long as the French infantry still held the north-western crest of the Spichen Heights. If, therefore, at 5 o'clock, the left attack had made some progress on the Rotherberg and within the woods, the general situation was anything but promising. On both wings the Prussians were fighting in

disorder, confronted by superior numbers supported by artillery, and it was impossible for their own batteries to render effective aid. Nevertheless, the resolution with which the attack on Stiring Wendel had been pressed, and the appearance of Von Woyna's troops at a point which threatened the communications with Forbach, had not only held back the French in Stiring Wendel from employing their superior numbers in a vigorous attempt to roll up the slender line opposed to them, but had induced them, just as the Prussians left wing made good its footing on the crest within the Gifert, to send the 67th Regiment, hitherto held in reserve on the Forbacherberg, to reinforce the troops in the valley below. The force on the heights was thus reduced at a critical moment by 1,860 bayonets; the numbers on that flank were now well nigh equal; and the French reserve on the Spicheren Ridge consisted of but two battalions.

On the other hand, the French in Stiring Wendel, when joined by the 67th Regiment, outnumbered the Prussians opposed to them by more than two to one; and whilst the latter had no reserve whatever, at least six of the French battalions had not yet been engaged. At 5 o'clock, therefore, Fossard's prospects of success were still favourable. It is true that the seven remaining battalions of the 5th Prussian Division were close at hand; still, this reinforcement would by no means have equalized numbers; and the French had the advantage of position. But their foe had hope of assistance from another source. Between 3 and 4 o'clock, on his way to the field, General Von Zastrow, receiving a report from Von Kamecke, had sent word to the commander of the 13th Division, whom he had already instructed to push forward an advance guard from Wehrden towards Forbach, that the 14th Division was heavily engaged, and requested at the same time, that he would co-operate in the action. If this officer realized the situation, and threw a portion of his force against the enemy's line of retreat before he could crush the weak right wing round Stiring Wendel, all might yet be well. The issue of the battle, therefore, depended on the energy and judgment of a single man; and we may note, as a proof of the confidence

with which each German officer relied on his comrades and subordinates, that when the seven battalions of the 5th Division arrived, not a single bayonet was sent to the right wing, although a portion had already given way. No one appeared to doubt that the commander of the 13th Division would come up at the right time and in the right place.

THE BATTLE ON THE PLATEAU. 5—6 P.M.

Shortly after 5 o'clock, the Fusilier Battalion of the 48th, on the extreme Prussian left, had reached the road which crosses the clearing between the Gifert and Pfaffen Woods.

The French battalion confronting them, the second of the 2nd Line, had withdrawn to the ditches further south, with the design of crushing an advance across the open; and, at the same time, had left a detachment in the Pfaffen Wood, the flanking fire of which caused the Fusiliers some loss. At 5.30, therefore, the First Battalion of the 48th, hitherto held in reserve, was ordered by the divisional commander, General Von Stulpnagel, then present, to clear the Pfaffen Wood and to threaten the enemy's right.

The left-half battalion, with two sections extended, struck through the wood well to the left, and without encountering any decided resistance, reached the southern border, the skirmishers taking post in a salient angle of the timber. The right-half battalion came into line with the Fusiliers, just in time to assist in repulsing a strong counter-attack of the French. In this position, each company with two sections in the firing line and one in support, the two battalions, notwithstanding the heavy shell and rifle fire that assailed them, held fast until the battle ceased.

In the meantime, to the right, within the dark interior of the Gifert Wood, the fight raged fiercely.

Independently of the more isolated action of the 48th, there were 32 $\frac{2}{3}$ Prussian companies employed between 5 and 6 p.m. in the Gifert Wood and on the Rotherberg. Of these, the Fusiliers of the 74th were alone collected as a battalion. On the ridge within the wood, were 18 $\frac{2}{3}$ companies of the

39th, 40th, 48th and 12th, much mixed up, and dissolved into a long line of skirmishers, with here and there a group of stragglers, which the strenuous efforts of the company officers had assembled as supports. On the French side, the 67th Regiment of Bastoul's Brigade had been withdrawn from the Forbacherberg to the valley; a battalion both of the 2nd and 66th still remained in reserve; but with these exceptions, the whole of Laveaucoupet's Division, as well as I/23 and I/66, 14 battalions, or nearly 9,000 rifles, joined by degrees the struggle on the crest, and endeavoured to drive the Prussians but little superior in numbers from the heights.

The front of battle swayed backwards and forwards, ground being won or lost as fresh troops came up on either side. That portion of the wood which crowns the height nowhere exceeds 500 yards in breadth; no wide interval, therefore, lay between the hostile lines, and, although at times the combatants, it is said, approached so closely that the officers were driven to use their revolvers, so heavy was the smoke, so dense the timber, so loud the din, and so universal the confusion, that no formed body of troops could be mustered in order by a concentrated effort to breach the hostile ranks. Many of the battalion and company leaders were already down, and those who still stood amidst the storm of bullets commanded merely handfuls of men, and men not of their own companies, nor even of their own battalions, but of every regiment engaged.

But the Prussian infantry was true to its discipline and training; and when, in the turmoil and excitement of the fight, the soldiers found that they were parted from their own immediate commander, or that their own leader had fallen, they sought out the nearest officer, irrespective of the number on his shoulder straps, and looked to him for orders. And so the Prussian line, although deprived of the strength and cohesion which tactical order and familiar association gives, was still in hand; and where the skill of a leader found an opening he had men wherewith to seize it. Still in the thickness of the wood, and the stunning roar of battle, no officer, however high his rank, could influence more than the nearest files on either side, and, therefore, on the commanders of small groups, whatever their grade might

FRENCH
PRUS
ORDE
CAME

60
E

27
63
★

S. W.
III
60
86

In F
4 Ba
12th
3rd

EA

iv F

VSM

an, 17

wdhu

taram

be, depended the handling of the men and the ultimate issue of the struggle.

Nor, although on both sides there was equality in courage and in numbers, was there much doubt as to the result. Here, swarming up from the hollow and across the leafy ridge, with their faces set towards Spicheren, were men with deep instincts of obedience, trusting their leaders and following the slightest sign; here were officers trained in battle exercises, seeing, in the deadly strife which raged in the thickets, but a livelier picture of their accustomed work, and recalling without effort the shifts and expedients learnt in more peaceful autumns; gathering, as it were by mere force of habit, the scattered files together; cheering and directing, thrusting ceaselessly at the flank of hostile groups; recognising clearly the purpose of the fight, and accepting as readily as composedly the responsibilities that the situation forced upon them, and to which their training had inured them.

Opposed to these were men, staunch and impetuous, but ill-disciplined; each fighting for his own hand, relying more on the rapidity than the accuracy of their fire; vigorous in individual effort, but regardless of their leaders, and ignorant of the power of united action. Nor were the officers better fitted than the men to cope with their more skilled antagonists. That they were in no wise wanting in warlike spirit the number that fell at Spicheren attests. In dash, in resolution, they were not inferior to their foes. But the majority knew little of the handling of troops, of the tricks of fence, the tactical devices, which every Prussian officer had at his fingers' ends, and those who possessed such knowledge could seldom find men to follow them. Careless of discipline in time of peace, without the taste or opportunity for earnest work, they had lost the confidence of their men, and the latter no longer looked to them instinctively under every circumstance of difficulty and danger.

And so, by six o'clock, superior training, skill, and discipline, prevailed against mere courage. The successive battalions that Laveaucoupet threw into the fight failed to drive the enemy from the crest, and whether by order of the divisional commander, of Frossard himself, or by the pressure of the attack, the wood was yielded, and the Prussians lined

the southern border. Laveaucoupet's battalions retired in good order, notwithstanding the fall of General Doens during the withdrawal, in echelon from the left towards Spicheren.

In face of the heavy fire which the mitrailleuses and artillery now poured upon the forest, it was impossible for the disordered throng of Prussians to pursue; nor could the south-west corner of the Gifert be maintained. III/2, reinforced probably by portions of the 66th and 63rd, still occupied the Spicheren Knoll, and, by a vigorous counter stroke, re-won this important angle for the French.

Such was the confusion in the Prussian ranks during the struggle within the Gifert Wood, that it is impossible to follow the progress of each battalion; but a description of the advance of II/12, and of a portion of II/40, will give some idea of the difficulty of wood fighting, and of the manner in which the extraordinary loss of unity came about.

The 5th and 6th Companies of the former battalion, forming the right wing, and the first to reach the crest, gradually moved off to the left as the French began to give ground. The 7th Company, forming, with the 8th, the left wing, extended its marksmen when half way up the height, and during the ascent extended the supports also. On surmounting the crest, the left wing companies sought to regain connection with the right, but, the latter having gone forward, the endeavour failed. The left wing crossed diagonally in rear of the right in a south-westerly direction; and, in the thick covert, the battalion became divided into two distinct bodies. During the subsequent advance, men of I/39, 40th, 74th and II/48, were drawn into the ranks; and whilst, near the *south-eastern* corner of the wood, far to the left of their original direction, 70 men of the 6th Company carried a little wedge-shaped copse, separated from the forest by the road; men of the 7th Company, reaching the *western* edge of the wood, were able to pour a flanking fire into the French as they finally retired from the Rotherberg. Along the entire southern border the battalion was scattered without tactical formation, the officers accompanied, perhaps, by only a single section of their own companies, and by men of various battalions; and, in many cases, the combat was carried on by small bodies fighting on their own account.

8/40 entered the wood with one section extended, but had soon to extend the remainder also. On getting through to the open it was stopped by a heavy cross-fire. Here, on the southern edge, were found two of the regimental colours, of which each battalion has one, escorted by half a section only. 7/40,* on reaching the border, formed itself opposite an outlying copse, which appeared to give good shelter. The company leader, therefore, with the help of about a section of the 48th, accompanied by one of its majors, an adjutant, and another officer, rushed towards it, across an open space of some 400 paces in breadth, and held on there till dark.

During the struggle in the forest, the Prussian troops upon the Rotherberg, still exposed to the fire of Laveaucoupet's batteries and of a strong force of infantry, were unable to make way. The First Company of the 12th attempted to capture the gun-pits to which the enemy had been driven, but the attack was beaten off; as, also, were two counter-strokes on the part of the French; and when Laveaucoupet withdrew his troops, and the gun-pits were abandoned, the fire of the infantry holding the Spicheren Knoll, and the south-west corner of the wood, effectually hindered all endeavours to gain ground beyond the saddle.

But although General Von Goeben had already telegraphed to the King that the success of the day was to all appearance assured, it was soon found that further progress was impracticable. The French were in superior numbers and their second position was much stronger than the first. Not only was the ground, which intervened between Laveaucoupet's new line and the woods, held by the Prussians, clear and unobstructed, but there was ample room on the downs behind Spicheren for the deployment of the whole artillery of the Second Corps. As General Laveaucoupet gave the order to retire, his artillery fell back, the 7th Battery taking post upon the Forbacherberg slopes. Here, where Bastoul's battery was already in action, it was joined by the 8th (which had exhausted all ammunition but case shot and had now to borrow from the 7th), with the exception of one section, which came into action on the Spicheren Ridge and did not rejoin the battery until

* This company had been detained as escort to head-quarters, and did not arrive till 7 p.m.

night had fallen and its ammunition was exhausted.

The mitrailleuses appear to have already retired to the Forbacherberg, and from this commanding position a heavy fire was poured on the border of the woods.

It was impossible for the Prussians to establish on the plateau sufficient artillery to prepare the way for a second attack, or even to draw off the attention of the hostile batteries from the infantry, and the French right was secured by the ravine (26).

All idea of a frontal attack, or attempt to turn the right flank was abandoned, and it was determined to employ the reinforcements which had arrived after 5 o'clock, in ejecting the enemy from his advanced post on the Spicheren Knoll, and, when that was effected, in striking the *left* flank of his position on the plateau.

The exact position of the French battalions on the new line cannot be ascertained; but there is reason to believe that the 40th Regiment, which had been engaged throughout the day, was now withdrawn to the Pfaffenberg, and that two battalions of the 8th Regiment were sent up about this time by Bataille from the Forbach Valley to reinforce the battalion of the 66th in the Spicheren Wood.

The losses of the French artillery, which for nearly six hours had been established on the Rotherberg and the north-west crest of the plateau (although 36 guns had been in action against it at no great range,) were curiously small. The 7th Battery (one section engaged upon the spur), lost one man and two horses killed, one man and two horses wounded. The 11th (mitrailleuse) Battery had five men wounded, some horses killed, and two pieces temporarily put out of action. The 8th Battery (2nd section engaged on spur) had lost one officer and three men killed, two officers and five men wounded, nineteen horses killed or wounded, and three caissons disabled.

Further reinforcements, F/12* and the main-body of the 9th Brigade, 5th Division, consisting of two battalions of the 8th Grenadiers and the 3rd Jägers, in all 4,000 men, had by this time reached the Saarbrücken Ridge. The 3rd Company of the 8th, which, owing to circumstances already recorded, headed the column, was accompanied by the regi-

*4 & IV, preceded by the 3rd and 4th squadrons of 12th Dragoons had already arrived, and had moved on to the Galgenberg.

mental commander; and as the troops neared St. Johann, this officer had received an order from a galloper on Von Doring's staff, to move through the St. Arnual Wood, and to turn the enemy's right. Accordingly, on reaching the Reppertsberg he bore off to the left with the leading company; but, when the three remaining companies, following the Jägers, arrived upon the ridge, fresh instructions were received, directing the First Battalion of the Grenadiers to advance towards the western slopes of the Spichen Heights, for the purpose of attacking in flank the saddle south of the Rotherberg and the Spichen Knoll. Two battalions, the Jägers and II/8 were sent to the Drill-ground Hill; F/12 was retained for the present on the Winterberg. The men of the First Grenadier Battalion had already taken off their packs, coats and cooking utensils, and had loaded their rifles. Across the valley, the Rotherberg was veiled in dense clouds of smoke; and above the dark crown of the Gifert Wood the white wreaths rose slowly in the still evening air. The line of guns upon the Galgenberg was dimly seen, with Rheinbaben's squadrons, ready to support or pursue, a little to the rear. Wounded men, singly or in groups, staggered out from the shadows of the forest and across the fields. Under the long shadows of the poplars the field hospitals were busily employed, and the endless rattle of musketry and crash of bursting shells told that the battle was at its height. At 5.30, the word was given "Stand to your Arms!" The colour was unfurled, and the march began; the 1st and 4th Companies, in company column at open interval, leading on either side the *chaussée*, accompanied by the brigadier, Von Doring, who gave the high steeple of Forbach Church as the point of direction. The captain of the 4th Company, Von Blumenhagen, had assumed command of the battalion, for the major, with the 3rd Company, was far away upon the left and ignorant of the change of orders.

The guns were passed upon the right, and the three companies moved along the foot of the Rotherberg, the battle raging fiercely overhead. Von Doring pointed to the formidable heights that the 48th Regiment of the same brigade had done its share in storming, and bade the Grenadiers emulate their comrades. His words were

answered by loud hurrahs. 500 paces from the Toll House the order was given to wheel sharply to the left, in order to gain a ravine which gives easier access to the plateau. A section of the 4th Company was sent off to the right in order to reach the ground in the direction of the Golden Bremm, but received by a heavy fire from the wooded slopes above the tavern, was forced to halt and take cover; and in spite of efforts to regain it, connection with the battalion was lost.*

The main-body halted for a few minutes before commencing the ascent. Skirmishers were sent out in front; and then the 1st and 4th Companies pressed up the rugged slopes, scrambling from rock to rock, clutching the tree-roots and bushes, each assisting his comrade as he could. Frequent halts were made, partly to give the men time to recover their breath, partly to restore order in the broken ranks. Close to the brow a last halt was made; each man rallied to his place, and with loud shouts of "Forward!" the plateau was gained. 600 paces south-east was the entrenched Spicheren Knoll. The south-west corner of the Gifert Wood, directly facing them, not more than 200 paces distant, was also occupied; and, on the extreme right flank, the outskirts of the Spicheren Wood. A withering fire struck the Grenadiers in front and flank. To remain halted on the exposed crest was impossible. 300 paces to the right front was a small ravine, and thither the leading companies were directed; but, during their rush across the open, officers and men fell fast. Little shelter was found when the cover was attained; and, after halting there for ten minutes, and in vain endeavouring to crush the fire of the well-covered enemy, Captain Von Blumenhagen led his two companies across the saddle, leaving a section behind to cover the advance. The losses, of the 1st Company especially, were very heavy; but, such was the resolution of the attack, that the French within the corner of the Gifert Wood gave way, and withdrew to the Spicheren Knoll. The 2nd Company, reaching the height about fifteen minutes later, came under a heavy fire from the knoll. The captain was wounded. The lieutenant ordered the sections to reform; but in carrying out this order the three section

* What eventually became of this section is not recorded.

leaders were badly hit, and many men fell. When order was restored, the commander was enabled to make an effective distribution of fire. Two sections faced the Spicheren Knoll, whilst a third swept the long ravine descending to the Golden Bremm, and drove back hostile columns that were attempting to attack the tavern.

The Gifert which had been since 1 o'clock the scene of such fierce and bloody fighting, was now entirely in the hands of the Prussians. By the capture of the south-west angle the French were deprived of all opportunity of making a sudden counter-stroke, and the flank of the defenders of Rotherberg was secured.

The direction of the charge of the Grenadiers was such that the flank of the assaulting line was enfiladed at a range of 400 paces of the French shelter trenches on the knoll; but the sudden rush, the short distance, 200 paces, to be traversed, and the effective fire of the covering section were probably the reasons that the battalion escaped annihilation.

This successful advance, it may be noted, was the first advantage which the Prussians owed to the capture of the Golden Bremm and Baraque Mouton. If Frossard had divided his portions into three distinct sections, assigning to each divisional leader a definite portion of the front commensurate with the numbers of his troops, the fall of the homesteads would probably have been prevented. As it was, the centre of his line, (that is, the western face of the plateau, the homesteads, and the Spicheren Wood) was occupied at first, partly by Laveaucoupet, partly by Vergé, afterwards by Bataille and Vergé; the latter was chiefly concerned for his left at Stiring Wendel, and when Bataille reached that village with Pouget's Brigade to support his colleague, he appears to have considered the threat of the enemy against the principal communication of the Army Corps, the Forbach Road, so strong as to cause him to neglect the centre. Only one battalion was sent to the Spicheren Wood, afterwards reinforced by two of the 8th Line.

Here we see clearly the disadvantages of a broken position, such as Frossard's. The attention of all the divisional leaders, fighting on an extended front, was drawn to the outer flanks, and the central battle was left to take

care of itself, without proper supervision or unity of command.

At the same time, as Frossard was placed, it was no easy matter to distribute his force in such a fashion that the central section of the position would come under the immediate supervision of a single leader. Still, when the reserve division appeared on the scene, Bataille might well have been entrusted with the charge of this important point, and his three divisional batteries have remained at his disposal.

This division was directed to the field in two distinct portions: Bastoul's Brigade with one battery making for Spicheren, Pouget with two proceeding by Forbach to Stiring Wendel.

Bataille, it appears, accompanied the latter. About 5 o'clock, owing to the vigour of the Prussian attack, the situation of the defenders of Stiring Wendel appeared critical; part of the garrison, it is said, had already fled in panic towards Forbach; he, therefore, called down the 67th Regiment from the Forbacherberg and led them across the valley in the direction of the Stiring Copse. At this point was General Vergé, and the presence of another officer of equal rank was scarcely necessary. Had Bataille, after sending Bastoul to the assistance of Laveaucoupet and Pouget to that of Vergé, taken charge of the central battle, each of the three lieutenant-generals would have had a definite command, and every point of the line have come under supervision.

As will be hereafter seen, the homesteads were of the utmost importance, even after 6 o'clock, when the main position upon the plateau was definitely abandoned; for their possession gave the Prussians a *point d'appui* opposite the very centre, the weakest quarter of the second line. Between 5 and 6, several attempts were made by the French to recapture the Golden Bremm and Baraque Mouton, the attacks proceeding from the long ravine and up the Forbach Road; but with the help of the artillery on the Galgenberg, the Fusiliers of the 77th held fast. We may notice at the same time that the buildings were not subjected to a heavy fire, which, had the French batteries been judiciously employed, might have been brought to bear from the position east of Stiring Wendel.

CHAPTER VIII.

THE BATTLE IN THE VALLEY. 5—7.30 P.M.

The Prussian attacks on Stiring Wendel had come to a stand-still by 5 o'clock. 6,000 men, extended over a front of 3,000 yards, with few officers remaining, and with brigades, regiments, and companies shuffled in a strange medley, and unsupported by either artillery or infantry, encompassed the French stronghold. The men were worn out by the protracted struggle. Their losses had been heavy; their power of resistance was strained to the utmost; the little ground that had been won had been purchased at a heavy price. It has often been observed that in fiercely-contested battles a moment comes when the physical and moral vigour of the soldiery relaxes and the bare aspect of a reinforcement turns the scale. Such a crisis had now arrived. From the Coal-pit Ridge, through the white clouds of smoke that rolled between the tall black chimneys of the foundry, a strong column of French infantry was seen approaching along the slopes of Spieheren Wood to the south of Stiring Wendel, and the very sight of its serried ranks and gleaming bayonets brought about the retreat of the exhausted Prussians.

The senior officer present with the 74th, without sending for instructions to the brigadier, gave the order to retire; and partly by way of the railroad, partly by Schoneck, his six and a half companies fell back on Drathzug. The fusiliers of the 53rd followed, joined by the 2nd, 3rd, and 4th companies of the 77th. Old Stiringen, and the Coal-pit Ridge, together with the whole of the field to westward of the rail-road were evacuated. Withdrawing in great confusion, the men made no halt until the Drathzug Farm,

one-and-a-quarter miles in the rear, was reached. Here the greater part of five battalions was assembled, but so shattered and disorganised that it was long before order was restored.

Notwithstanding the retreat of their comrades, the three companies of the 39th and four of the 77th, though much reduced in officers and men, still held fast along the border of the copse. It was the 39th that fired the first shot of the battle. From 1 o'clock, without stay or respite, they had been engaged within the wood, attacking and attacked, at times driven back by the heavy pressure of the more numerous French infantry, but retiring slowly, and with their faces to the enemy, rallying quickly on the reinforcements appearing, and pushing forward again with unabated courage and persistence. The 77th had also shared the fluctuations of the fight for the copse since 3 o'clock, and with the loss of three company leaders and their adjutant, had materially assisted to repulse two strong attacks on the border of the wood.

The general rearward movement that now swept past their right, and left these two attenuated battalions exposed to the full brunt of the enemy's attack, strengthened as it must shortly be by the column that was bearing down across the valley, in no degree infected these men of Hanover and the Rhineland. Spent with fighting and reduced to a few hundred rifles, but resolute to cover the retreat of Von Woyna and his broken troops, they steadfastly awaited the imminent attack of the hostile masses.

But their numbers were few, and an hour of triumph had come for the French. Not only had the throng of assailants which had so long beset the village melted away at the sight of the approaching reinforcement, but a leader, quick to realize and grasp his opportunity, was present on the field.

Of Pouget's Brigade, the two battalions of the 23rd had been placed in Stiring Wendel, in order to meet the out-flanking movement which was constantly threatening from the Stiring Forest; but a battalion of the 8th had remained south-east the village in reserve, and the divisional commander as already recorded, had called down the 67th Regiment from the Spichenen Heights.

This last was the force which the Prussians had descried. On its arrival at the village the 1st Battalion was thrown into the foundry ; the 2nd and 3rd, with which, backed by the battalion of the 8th in second line, Bataille purposed to drive the enemy from the copse, deployed behind a steep undulation to the east. Vergé, at the same time, as soon as the Prussians began to give way, had brought up two battalions of the 55th, and drawn them up for attack in the hollow across which runs the Spicheren-Schoneck Road ; behind the same undulation which covered the 67th, and 700 yards from the south-east corner of the Stiring Copse.

Two companies of the 55th deployed as skirmishers, 200 yards to the front. The remainder of the battalion was massed in column ; the two battalions of the 67th in close column of sections on the left. The second battalion 55th was held back in third line. Covered by the advance of these troops, some of the French batteries again advanced, and opened a vigorous fire on the borders of the copse. Vergé then ordered an advance, and the skirmishers of the 55th, the columns in rear being still sheltered in the hollow, moved on to a point within 300 paces of the border of the wood.

Although confronted by an overwhelming force, and assailed by an artillery fire to which they could make no reply, the seven Prussian companies still held fast. A detachment occupied the embankment of the railway, but mounds of slag and refuse protected the French left from this cross fire, the effect of which was confined to the narrow space of 200 yards that intervened between the slag-heaps and the copse. The fight was protracted for nearly thirty minutes ; at length the fire of the defence began to slacken ; the French skirmishers rushed forward and the columns followed. "It was necessary," writes a participant in the charge, "to cross a space of more than two hundred yards in width exposed to a heavy flanking fire. The earth was covered in a couple of minutes with dead and wounded."

In this attack the 55th did not even fix bayonets, and such was the excitement of the men that the column broke up, those superior in wind and strength far outstripping their comrades. But the border of the copse was carried, and the

Prussians, still fighting desperately, were pushed back into the interior with heavy losses.

The First Company 77th was almost entirely dispersed ; the weak remnant was collected and led back to Drathzug by the sole remaining officer, leaving but six companies, (and these reduced to the strength of a section each), to withstand the advance of Vergé's and Bataille's battalions.

The French batteries, which had followed the infantry, now recovered the five pieces that had been earlier abandoned, moved up the valley, and, in concert with the artillery on the Forbacherberg, engaged the enemy's batteries upon the Galgenberg. In fact the counter stroke was a vigorous one, supported by the whole of the artillery at the general's disposal.

Despite the resistance of the 39th and 74th, the attack in the copse was progressing favourably, and some of Bataille's troops were pressing down the valley. On the plateau too, the south-west corner of the Gifert Wood had been re-taken, and all the efforts of the enemy to advance across the open towards Spicheren had been crushed ; whilst from the ravine above the Golden Bremm, strong detachments of the 8th were now descending to the assault of the Baraque Mouton.

At this hour, shortly after 6 o'clock, fortune appeared to have declared against the Prussians ; but, within a short space of time, the Fusiliers of the 77th, drawing reinforcements from the Golden Bremm, and effectively supported by the artillery, had beaten back the attempt upon the farm ; the flank attack of the 8th Grenadiers had re-won the south-west corner of the Gifert Wood, and a skilful stroke of tactics checked the advance of the French infantry and guns down the Forbach Valley.

Since 1 o'clock, the Prussian batteries had remained upon the Galgenberg, II/7, alone assuming, shortly after 3, a more advanced position. So long as the Toll House and the Golden Bremm were in possession of the French, the remainder were unable to follow ; and when these posts were taken, although shortly after 5 o'clock the guns had ceased fire for the want of a target, still the presence of hostile infantry on the north-west slope of the plateau,

distant not more than 700-1000 yards, was a sufficient hindrance to an advance to the Folster Height (21).

But the advent of the 2nd Company, 8th Grenadiers, on the western crest of the heights, cleared the way; and when, shortly before 6.30, a report reached General Von Zastrow that the right wing within the copse was sorely pressed, and he saw the enemy's shells bursting on the Galgenberg, he rode forward to the Folster Height, directing the guns to limber up and follow.

Eight batteries obeyed, but so cramped was the space that two (6/8 and 4/1) were unable to come into action, and were held back under cover.*

This strong artillery counter-stroke not only brought the French infantry who were moving down the Forbach Valley to a standstill, but proved more than a match for the hostile guns. Nevertheless, within the copse, the debris of the 39th and 77th was step by step forced back, and by 7 o'clock the wood was evacuated by all save the shattered remnant of the Fusiliers.

Riding forward to the copse, Von Zastrow bade this handful of riflemen, at all hazards, to hold the northern outskirt. If they yielded their position, and permitted the French to break out across the Folster Height, the line of batteries would be placed in the greatest jeopardy. Then, galloping to the Drathzng, he ordered Von Woyna to bring forward the battalions there assembled, although some of them had not yet re-formed, to the assistance of their comrades.

For more than six long hours the 39th had been at close quarters with the enemy, and by far the greater number lay stretched beneath the giant beeches. But the stubborn courage of the whole appears to have been concentrated in the few survivors, and when Von Woyna's men, reduced by losses and by stragglers to 2,500 bayonets, came once more into line, the northern border of the copse was still in the hands of the Fusiliers.

* West of the high-road, facing the French guns, four batteries of the 14th Division, 1, 2, I, II, 7. East of high-road, facing the long ravine two batteries attached to 10th Brigade, 5th Division, 4 & IV/3. 6/8 & 4/1, at first employed east of road, but soon withdrawn. VI/8 remained on the Galgenberg. 4/1 had arrived upon the field at 6.15.

Notwithstanding this gallant stand against overwhelming odds, it is, nevertheless, exceedingly improbable that the Prussian right could have long resisted the attack so energetically pushed by Generals Bataille and Vergé. Besides the troops that had stormed the copse, 6,000 infantry, at least, the whole garrison of Stiring Wendel, were close at hand; and, it is not too much to assert, that one vigorous effort would have given the French the battle.

But that effort was never made. Scarcely had the 28th Brigade taken post alongside the 39th, when the pressure of the attack began to slacken; and, under cover of a heavy fire, the enemy rapidly fell back. The Prussians followed cautiously; but the French did not await the encounter; "and, after a short distance," says the Staff History, "no serious opposition was met with." By 7.30, every French soldier, save the dead and dying, had vanished from the wood, and Von Woyna was suffered to re-establish his line before the Stiring Foundry. The explanation of this startling change in the aspect of the battle is not far to seek. Von Zastrow's confidence was justified. The 13th Division had come up.

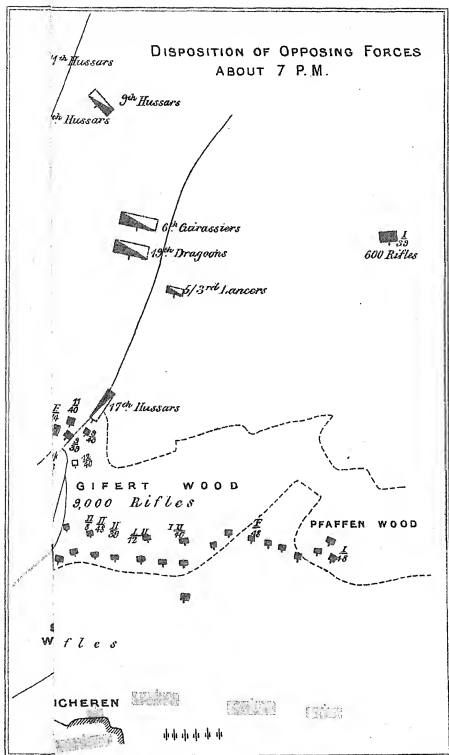
At 22 minutes past 7, the following telegram was despatched by Frossard to Bazaine:—

"We are turned from Wehrden. I am bringing up
"my whole force to the heights."

Half-an-hour before, the advance of hostile troops along the Volklingen-Forbach Road, which led to the rear of his position, and was unguarded, save by the two squadrons of dragoons and the company of sappers that garrisoned the Kaninchenberg, had been reported. Every one of his battalions had become involved in the fight in front; he had expended his last reserves; his line of retreat was seriously menaced; and he, therefore, ordered Bataille and Vergé to withdraw their divisions from the valley to the plateau.

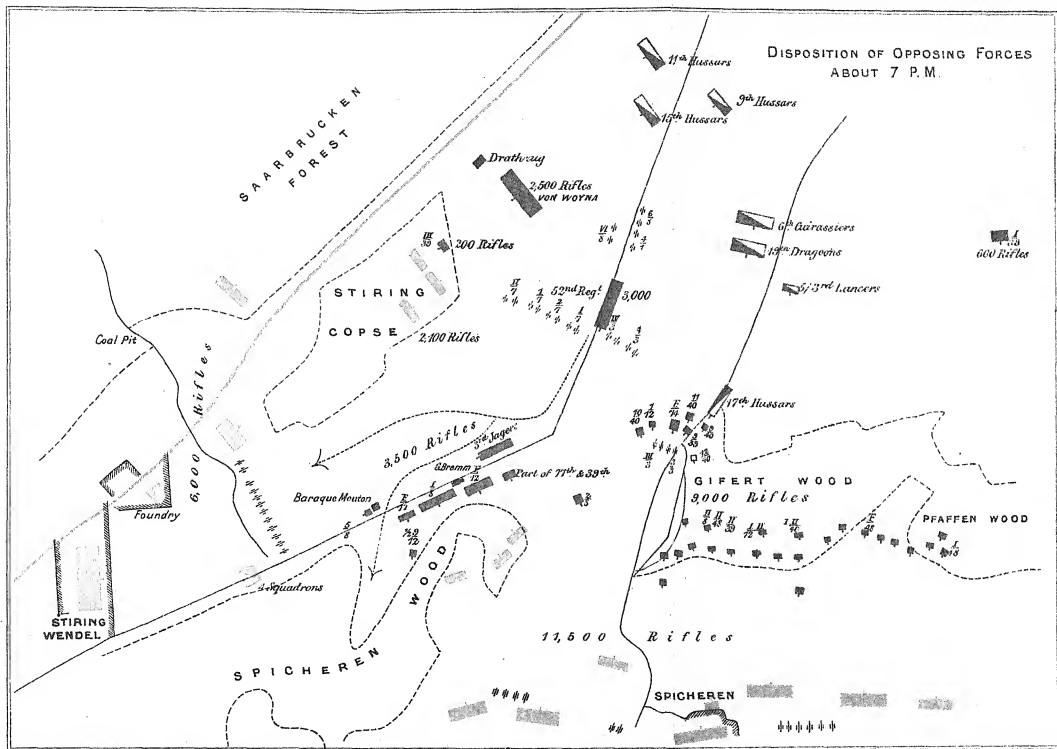
When Von Woyna re-entered the Stiring Copse, this order had been communicated to those battalions who pressed so heavily on the 39th; the attack had been suddenly arrested, and the French skirmishers were already disappearing in the shadows of the wood.

DISPOSITION OF OPPOSING FORCES ABOUT 7 P.M.



(to face Page 214)

DISPOSITION OF OPPOSING FORCES
ABOUT 7 P.M.



Frossard has given us his reasons for retreat:—

"The events," he writes, "which were taking place at the *débouché* of the Saarlouis Road, were reported at Stiring just as the First Division, supported by the Second, was making a supreme effort to check the Prussian advance. That endeavour was successful, and there, as on the plateau, the enemy gained no more ground. But under the circumstances, the General-in-Chief, abandoned to his own resources, in face of the fresh reinforcements which the Prussians continually received, recognised that left to himself he could not maintain the whole of his position. The Army Corps, exhausted by a long struggle, seriously menaced on the right—though there the enemy was still held back—was taken in reverse on the extreme left; and the troops engaged at Stiring, would probably, on hearing the cannonade at Forbach, have become apprehensive that they were cut off. As for assistance, not one of the promised divisions of the 3rd Corps had marched to the sound of the guns."

The artillery was first drawn off, taking post when it reached the heights, upon the slopes of the Pfaffenberg; the cavalry, and then the infantry followed, leaving a detachment in the village to cover the retreat.

The troops filed on to the plateau in rear of Laveaucoupet's Division, which was still in occupation of the Spicheren Ridge and the Forbacherberg.

There are several points worth notice in this battle round Stiring Wendel. In the first place, the French were always superior in numbers, but it was not until Bataille's arrival that they attempted a general counterstroke. Their offensive sallies, although numerous enough, at no time took the form of a vigorous attack made both on the front and flank, but were local and isolated, designed merely to repel for the moment the pressure of the enemy's advance. It must be remembered, however, that the movements and numbers of the Prussians were concealed by the thick woods; and that General Vergé, who was in command of this wing, shared, in all probability, the apprehensions of the army that the enemy was in greatly superior strength. Even the most resolute of men, guarding the line of retreat as he was,

might have hesitated to commit a large portion of his force to an attack on a large scale. The Prussians showed no indication of weakness until shortly before Bataille came up. Their line of battle, so far from contracting, extended further and further round the flank; the audacity and persistence with which they pushed from house to house was sufficient in itself to induce the belief that they were strongly supported; and it was impossible to detect their real inferiority. But, after 5 o'clock, there were signs that the strength of the attack was well-nigh exhausted. A battalion of the 53rd had fallen back from the right flank without a serious engagement; and troops on the same flank, that had entered Stiring Wendel, suddenly evacuated it. From this evident uncasiness of the Prussians from their right, it might have been fairly inferred that the necessary supports were *not* forthcoming, and that this flank was the point where they most dreaded attack.

Secondly, if these symptoms were either unobserved or mis-interpreted, and such might easily have been the case, they still suggest very forcibly the method in which the village might have been best defended. The French tactics consisted in constantly reinforcing the garrison, and in making frontal counter-strokes against the Stiring Copse. Secured by the railway cutting, they allowed the Prussians to envelop the west side of the village without making a single offensive effort. The village, protected from bombardment, served all the purposes of a strong fortification. But instead of utilising its advantages, to make one man do the work of three, the French actually maintained a garrison within it that was superior in numbers to the attacking force. So long as the foundry was held, Stiring Wendel was safe, and the greater part of the garrison might have been set free, without the slightest risk, to strike the outer flank of the Prussians from the direction of the glass works. Such tactics would have been far more decisive than merely keeping the troops under cover, and firing at the enemy across the cutting. When the assailant exposes a flank so rashly as did the Prussians, it is flouting fortune to let him go unpunished.

It may be argued that, surprised as the French were, deceived by the energy of the attack, and unable to estimate

the numbers concealed in the surrounding forest, they could not have acted otherwise than they did. But this is not to the point. With the difficulties of the situation we are not now concerned. The teaching to be drawn from the fight round Stiring Wendel is this: had the general principle been regarded, that a fortified point enables the defender, leaving there a sufficient garrison and no more, to employ a portion of his force for other purposes, several battalions of Vergé's division might have been more effectively used than as the superfluous defenders of bricks and mortar. The French looked upon Stiring Wendel as a point to be held at all risks, not as a pivot for, and an aid to, offensive action. We may also notice that the garrison of the village showed a decided want of initiative in not supporting Bataille's attack by an advance west of the railroad.

THE BATTLE ON THE PLATEAU. AFTER 6 O'CLOCK.

The disposition of the French force, after the final capture of the south-west angle of the Gifert Wood by the 8th Grenadiers, was as follows:—

In advance of the left were eight companies of the 2nd posted on the entrenched Spicheren Knoll. Two battalions of the 8th, which Bataille soon after withdrawing the 67th, had sent up from the valley to the heights, and one of the 66th, held the head of the ravine above the Golden Bremm, and the adjacent Spicheren Wood.

On the Spicheren Ridge, and the Forbacherberg, were ranged the 63rd, 24th, 2nd, and 10th Chasseurs, III/23 and I and III/66; the 40th occupied the Pfaffenberg. Thus, nineteen battalions, or allowing for losses, 11,500 rifles, backed by guns and mitrailleuses, confronted 44 companies, which at their full strength, had not numbered more than 1,100 men.

The Prussians had won the northern crest of the plateau, the Gifert Wood, the Rotherberg, and the homesteads; but the enemy had withdrawn to a still stronger line, and the desperate fighting had by no means tamed his power of resistance. Several disjointed efforts were made about this time to advance on Spicheren from the Gifert Wood. That made by a portion of the 12th, will serve as an instance. Joined

on the left by a portion of the 48th, two companies rushed into the ravine in front ; but cover was wanting ; the leaden hail beat fiercely on the slopes ; support was not forthcoming, and the attack dissolved, the sections losing all cohesion and connection during the retreat. Not only was a direct forward movement quite impracticable, but there was some reason to fear, in face of the repeated, though isolated, counter-strokes of the enemy's battalions, that if the infantry were left without strong support, the ground already won would have to be relinquished (28).

"We did not consider," says Von Hohenlohe, "that the Rotherberg had been definitely occupied by us until batteries had established themselves upon it and had repulsed several efforts of the enemy to retake it."

So even before the 8th Grenadiers arrived upon the heights the generals in council on the Saarbrücken Road had determined to bring up cavalry and artillery.

Von Alvensleben, commanding III Army Corps, and in charge of the left attack, immediately issued the necessary orders. General Von Rheinbaben, who by this time had seventeen* squadrons of his own divisions assembled round him in the Erenthal, was requested, if possible, to send a force of horsemen to the plateau ; and to General Von Bülow, chief of the artillery of III Army Corps, was entrusted the direction of the batteries.

The 17th Hussars, a regiment of Brunswickers, who wear the motto, "Death or Glory," breaking into column of troops, trotted forward into the open ground west of the heights, over which the Grenadiers had lately passed. The officers sent to the front could find no path ; the troopers in vain essayed to scale the cliffs ; and, assailed in flank by musketry from the slopes above the Golden Bremm, were quickly compelled to retrace their steps. In compliance with the request of Von Alvensleben, the road which winds round the eastern face of the Rotherberg was next attempted, and though steep and narrow, flanked on one side by a sheer descent, and on the other by a lofty sandstone cliff, was surmounted with little difficulty.

* 17th Hussars, 4 squadrons ; 11th Hussars, 4 squadrons ; 3rd Lancers, 1 squadron ; 19th Dragoons, 4 squadrons ; 6th Cuirassiers, 4 squadrons.

But, on reaching the crest, the leading squadron was prevented from deploying, as much by the rugged nature of the ground, covered with boulders and loose stones, and broken by shelter-pits and quarry holes, as by the Chassepôt fire from the Spicheren Knoll.

The enterprise had to be abandoned; and a retreat was made to the road, where the regiment remained for some time, huddled in half sections on the narrow track.

The artillery was more successful. The two batteries detached to follow the hussars, 3 & III/3, from the Galgenberg, became involved in the vain endeavour to scale the western slopes; and when the Spicheren-Saarbrücken Road was reached, it was found so contracted by the presence of the horsemen, and so deeply scored by shells, that, at the first trial, one gun only of the 3rd Light Battery was able to reach the crest; the second capsized over the bank to the left. Nevertheless, a single piece of ordnance represented much to the hard-pressed infantry. Subjected to a long-range fire, under which their numbers were steadily wasting, and unable to make reprisal, they saw, in the solitary 9-pounder, a weapon which promised to restore the balance of the fight.

On the narrow level of the spur every yard of front was already tenanted by a rifleman, and even a powerful reinforcement of infantry would have been less welcome than an auxiliary which had the power to cope with the hostile batteries, and to divert the pitiless stream of musketry.

And so it was amid loud huzzas from the groups of officers and men which crowded behind bank and boulder, that the panting team, urged on by whip and voice and spur, dashed up the broken slope and drove the swaying field-piece forward through the smoke.

At the edge of the forest, beyond the foremost line of skirmishers, and not 700 yards from the French trenches, the gun came rapidly into action. But its appearance provoked a concentrated fire; the men fell fast, and, after a few rounds, it was withdrawn to the shelter of a bank 100 paces to the rear.

Here the remainder of the battery came into line, followed by two 12-pounders of III/3, which, diverging to the right, took post upon the western crest.

Guns in the open were now opposed to a line of infantry (eight companies of the 2nd Line) entrenched, and the interval which separated them did not exceed 800 yards. But the heavier projectiles, bursting in quick succession and with mechanical accuracy on the hillock, shook the nerve and disturbed the aim of the French riflemen. Under the ceaseless hail of bullets nearly half the gunners and many of their officers fell; but still, with the same relentless precision, shell after shell searched out the hostile trenches. The earthen parapets crumbled fast; and at length, after a duel which had lasted, according to the history of the French regiment engaged, for half an hour, the batteries triumphed, and the trenches were abandoned. The four remaining pieces of III/3 were now enabled to come into action between the left of the light battery and the wood; and the engagement on the western part of the plateau was for the present confined to the artillery.

The intervention of the guns had somewhat relieved the strain upon the infantry, but at 6.45, the battle had come to a standstill; the French still presenting an unbroken front, and overwhelming with fierce bursts of musketry every effort made by the Prussians to break forward from the wood, and maintaining a constant and heavy shell fire on the border.

During the movements which took place in the last phase of the battle on the heights, from 6 o'clock to the close of the engagement, although attempts were made to push forward towards Spicheren, the heterogeneous chain of infantry, which formed the Prussian line from the Pfaffenwood to the western verge of the Rotherberg, could do no more than hold its ground.

In face of the still vigorous foe, and under fire of his numerous guns, it was impossible to attempt the restoration of tactical order. It was even with the greatest difficulty, and only by their personal influence and fearless exposure, that the leaders were able to maintain a hedge of rifles along the border, and to restrain the men from seeking safety from the crashing shells in the centre of the wood. Not a few who had slipped away were found by officers who were seeking to collect supports for the fighting line, and, by

the employment of energetic language, were assembled in scattered groups in the rear.

The following extract from the Regimental History of the 12th Grenadiers, gives us a striking picture of the situation :

"At the south-west corner of the Gifert Wood were collected the 7th company, men of the 40th and 48th Regiments, of the 2nd and 4th Companies of the 12th, and Grenadiers of the 8th Regiment. The hostile fire on this angle was very heavy, and it was repeatedly attacked by the French 63rd, 24th, 40th, and 66th.

"The loss along the border was so great, that the only remaining officer with the 2nd Company led his men forward into the ravine in front, from which the enemy had retired to the higher ground near Spichenen. Some of the 6th Company followed ; but so many officers and men had fallen, that the detachment dissolved, part going to the right and joining the 5th Company, part to the left to the 48th, a section only remaining with their leader.

¶ "The men of the 5th Company had meanwhile advanced into the ravine on the right of the 6th, and, although reinforced by some of the 48th, the casualties became so numerous that retreat became necessary ; and it was with difficulty that the troops were retained even on the border of the wood under the fire of the artillery and the Chassepôts."

As an instance of the little influence superior officers can exert when once their men have been absorbed into the firing line, Captain Seton relates that, ascending the Rotherberg in the wake of the guns, he found there General Von Barnekow, commanding 16 Division, and Colonel Von Rex, commanding 32nd Brigade. There were also present the officer commanding the 40th Regiment, and the leader of one of his battalions; the latter, with a few of his men, under shelter of an earthen bank. It is almost needless to say that not one of these officers was in a position to communicate with more than a very small portion of his command ; their men were scattered at intervals over the whole front of the left wing, and they were powerless to support, to rally, or direct.

On the arrival of the first reinforcements at 3.30, the German leaders, constant to the tactical principle that a flank

attack is the surest means both of warding off attack, and of reaping success from the offensive, had struck at the enemy's right through the Gifert and the Pfaffen Woods. But, when the southern border of the forest was gained, it was found that further progress was impossible. The open slopes in front were commanded by the Spicheren Ridge; and the orderly withdrawal of the French infantry gave the out-flanking battalions no opportunity of involving Laveaucoupet's right in a struggle at close quarters, and of so holding it fast in an advanced position. Neither did the successful charge of the Grenadiers, nor the support of the two batteries, bring about any decisive change. When once the crest of the Rotherberg was lost, the French had been powerless to regain it; but the Prussians were equally powerless to advance, and the narrow saddle, inviting concentration of fire, and contracting all formations into deep column, was left untrodden by either side.

And so, as the sun neared his setting, both antagonists found that they held positions exceedingly favourable for defence. But the French possessed a resource which their enemy lacked, and that was the line of batteries on the Forbacherberg and Spicheren Ridge. Not only were the Prussian guns upon the Rotherberg few in number, but those upon the Galgenberg, and, after 6.30, on the Folster Height, were hindered from directing their fire on the plateau by the presence of their own infantry, 2/8, on the western crest. It was possible then, for the French commanders to subject the hostile front upon the heights to a vigorous and accurate cannonade; and, having shattered the enemy's power of resistance, to put the finishing stroke to the battle by a general advance upon his disheartened line. This was the course on which, in effect, the Imperial generals decided.

The French infantry, although it had withdrawn to the Spicheren Ridge, was by no means disheartened. Not only was a constant fire maintained upon the whole line won by the Prussians, but repeated, if isolated, counter-strokes tried the fortitude of the Prussians to the utmost. It was felt by the Prussian generals that the ground already won could only be maintained by a strenuous effort; and it is noteworthy that this effort took the shape, not of a strength-

ening, by sending in reinforcements, of the disordered and unsupported line along the border of the Gifert Wood and on the Rotherberg, but of a flank attack. More judgment appears here than in the defence of Stiring Wendel.

But the French position, formidable as it was, was not without its weak point. The capture of the Golden Bremm and the Baraque Mouton had driven a wedge into the centre; and it was possible for the Prussians, by a vigorous attack from this foothold, if not to breach the line, at least to seriously threaten the left flank of the force upon the plateau, and to thus avert the counter-stroke presaged by the continuous cannonade.

About 6.15, the Fusilier battalion of the 12th was on the Winterberg, the 3rd Jägers and II/8 on the Drill-ground Hill and Reppertsberg, and three battalions of the 52nd in process of concentrating on the Saarbrücken Ridge. The general commanding III Army Corps, after communicating with the other generals of the corps who were present, resolved to employ these six battalions in a flanking movement against the *western* slopes of the Spieheren Heights, following the path already taken by the I/8th Grenadiers. As the line of batteries advanced to the Folster Heights, the three leading battalions, the Fusiliers of the 12th, 3rd Jägers, and II/8, under Colonel L'Estocq, moved forward to the battle; followed to the right rear by the 52nd, directed by Major-General Von Schwerin, and by the two batteries attached to the 10th brigade.

In company columns, the 9th, with skirmishers extended, in front, the Fusiliers from the Winterberg led the way diagonally across the valley. As they passed the Rotherberg they were met by many wounded men of their own First Battalion, and officers and privates beheld brothers and near kinsmen carried dying from the fight. 700 paces east of the Toll House, the foremost company struck the road; and, under the fierce fire of the mitrailleuse battery on the Forbaehenberg, and of musketry from the Spieheren Wood, brought up their right shoulders, and ascended the ravine that faced them. But on the slopes all symmetry was lost. A quarry blocked the way, and the men diverged to either flank, splitting into two half-companies, which did not again

resume cohesion. The remaining companies, before they reached the shelter of the ravine, suffered many casualties, and their leaders were compelled to dismount.

So heavy was the hostile fire that the 9th Company was withdrawn, and ordered to cover the advance of the battalions by an attack on the spur of the Forbacherberg from the direction of the Toll House. But, as has been related, this company had become divided by a wide interval; only the right half followed the captain, and, assailed in flank as they dashed down the incline, the men broke in disorder, and were not rallied till they reached the Golden Bremm.

Meanwhile, the main body of the Fusiliers had reached the crest. Here they found themselves confronted by a line of hostile infantry half-right (probably behind the crest of the Spicheren Knoll). The skirmishers extended, but made no progress, except on the right, where, after a hard fight, a detachment of French riflemen, was routed by a sergeant and a few of the marksman's section with the bayonet. In the position they now held along the western brow of the plateau, the front of the Fusiliers extended north and south; their line almost at right angles to the main position of the French, which ran from east to west along the Forbach mamelon. The riflemen half-right were but advanced skirmishers; and to attack the enemy in front it would be necessary to swing round to the right under a heavy flanking fire, and to advance across the open. The impracticability and uselessness of such an operation was quickly gauged by the battalion commander; and he determined to bear off to the right beneath the brow of the hill so as to gain the enemy's flank. Two sections were left to cover the movement, but, so steep was the descent, and so great the difficulty of working under fire on the broken slopes, that all order was lost, and, as the 9th Company had done already, the men broke loose from control and rushed in confusion on the Golden Bremm.

To the left of the Fusiliers, the Jägers had also surmounted the height, and had there taken up connection with the right of 2/8, which, though the remainder of its battalion had entered the Gifert, still clung to the western crest. To the left rear followed the 2nd Battalion of the Grenadiers.

During the ascent the losses of both battalions were by no means inconsiderable; and on the skirmishers of the Jägers taking post upon the exposed crest under the flank fire from the Forbacherberg and Spicheren Wood, casualties rapidly increased. A vigorous counter-stroke was repulsed, but Colonel L'Estocq, who had joined this battalion, recognising, when he reached the brow and found the French posted several hundred paces away to his right, that from his present position he could not deliver a flank attack, immediately ordered the two battalions to descend the ravine, and move upon the homesteads, determining from that base to strike the left wing of the hostile force upon the plateau. The two batteries, finding it impossible to act, had already been withdrawn.

The Fusiliers had re-formed behind the Golden Bremm; and, with the four companies in line of company columns, marksmen extended, prepared to assault the spur of the Forbacherberg.

L'Estocq's remaining battalions were now advancing along the high-road under a heavy fire from the Spicheren Wood; and it will be well to observe the precautions adopted by commanders of various grades to protect the exposed flank during the subsequent attack (30).

Baraque Mouton, 400 yards south-west of the Golden Bremm, had been hitherto held by the Fusilier Battalion of the 77th, and formed a strong outwork; as it were, against any hostile movement from Forbach, or Stiring Wendel, or from the long ravine which cleaves the Spicheren Wood; but it appears that on the Fusiliers of the 12th arriving on the scene, this battalion abandoned both the tavern and the farm in order to join in the assault.

The commander of II/8, who had instructions to prolong VonL'Estocq's line of attack to the right, directed his 5th Company to occupy the tavern. It will be remembered that a half company of the Fusiliers of the 12th had been ordered from the first to protect the flank of its battalion. With this object it had entered the tavern garden, probably after its evacuation by its former garrison. Lining the high eastern wall, and finding foothold in the vine espaliers, it had kept up a fire on the borders of the opposite wood; and then, on

the approach of 5/8, jumped down from the wall, and, not without loss, gained shelter under the slope beyond the road. 50 men were here collected, of whom half were at once extended, half held back in support, and patrols under non-commissioned officers were sent out right and left. The French skirmishers retired; but still intent on his mission of covering the right flank, the subaltern in command bore off to his right along the thickly wooded slopes of the long ravine, driving the French riflemen up the hill.

5/8, on relieving this detachment of the 12th, occupied the yard; and in order to cover the advance of the battalion along the high road, opened a brisk fire on the opposite wood.

Colonel Von L'Estocq, committing the first line of attack to the two battalions of the 12th and 8th, ordered the Jägers to take post in the Golden Bremm and Baraque Mouton. The 1st Company occupied the tavern, making a banquette of furniture along the garden wall; the 2nd established itself in the farm; the 3rd and 4th were placed behind the Toll House.

5/8, being in its turn relieved, went forward to the Baraque Mouton. Hostile detachments were observed in the ravine beyond the wood. The lieutenant in command took post along the wood with two sections extended north of the *chaussée* and one in support behind the farm, drove back the French, and sought connection with his battalion by patrols.

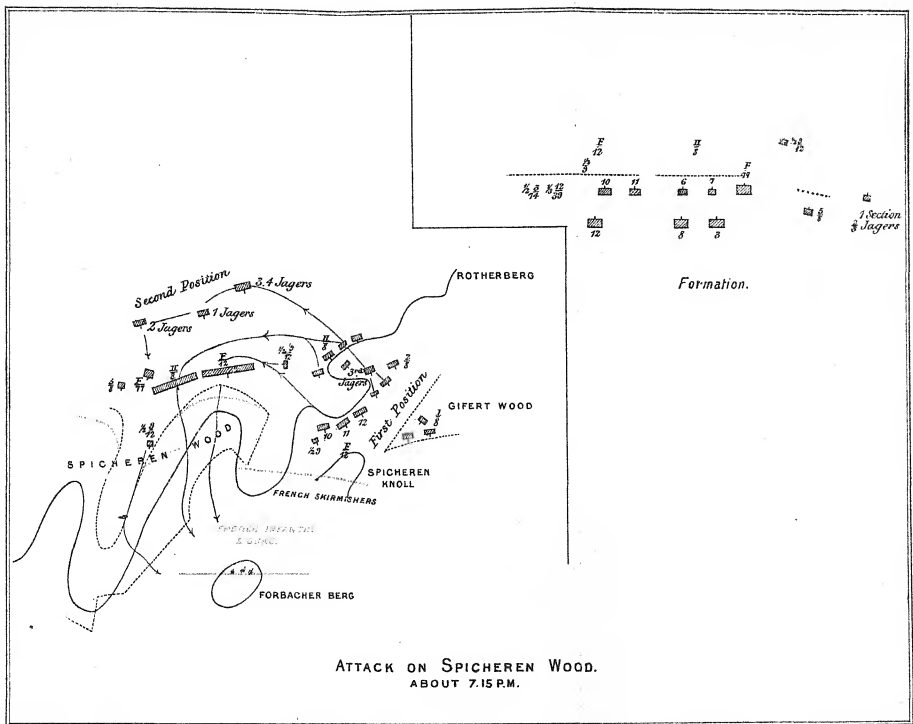
About this time H/8 was reinforced by the 3rd Company, which, as has been related, had been withdrawn from the extreme Prussian left; and had thus traversed, before it joined the 2nd battalion, the whole length of the attack upon the Spicheren Heights. The battalion was ordered to advance against the wood in the formation indicated in the accompanying sketch; and the sketch shows, also, the general disposition of Von L'Estocq's troops when the assault commenced.

As to the formation or position of the French troops, nothing can be definitely ascertained; but it may be inferred that, in the Spicheren Wood and on the spur of the Forbacherberg, they were present in considerable force, for the Prussian battalions had suffered heavy loss during their advance to the Golden Bremm.

• J
A
EFEN

ITS

eral D



The Fusiliers of the 12th had just reached the wooded slope of the Forbacherberg spur, driving the French skirmishers before them; the Grenadiers on their right were prepared to assault the apex of the salient; and the Jägers were advancing towards the Golden Bremm along the high road, when, from the ravine half left, a fierce counter-stroke broke forth. The foliage of the lofty poplars which lined the broad chaussée was cut to shreds by a storm of bullets, and the Jägers dropped fast on the dusty track beneath. A swarm of infantry thronged down the ravine. The tirailleurs in the Spicheren Wood were reinforced and turned upon their pursuers, driving the marksmen of the 12th and Grenadiers before them. The edge of the wood was yielded. The Fusiliers, attacked in flank and front, were pressed back, skirmishers and supports together, but were rallied by their officers on the road. II/8th, closing quickly, sought cover to the right. But the Prussian artillerymen on the Folster Height, keeping vigilant watch on every quarter of the field, sent a storm of shell into the descending column. The French wavered; Colonel Von L'Estocq ordered an immediate advance; and with drums beating, under a murderous fire which fell with especial fierceness on the supports, the troops once more, at charging pace, rushed over the open ground. The French fell back, and the counter-stroke was checked. But the wood beyond was not won without a struggle; behind every bush and tree stood a hostile marksman, and the precipitous ascent was soon covered with dead and wounded. Still, through the dense mist of smoke that shrouded the thickets and the lofty beeches, the enemy slowly though surely gave ground; and at length, after many a halt and with heavy loss the Prussians reached the crest.

To cover the flank of the Grenadiers, a section of the 2nd Company of the Jägers had mounted the ravine that faces Barque Mouton; and now, along the upper border of the Spicheren Wood, were assembled, at 7.30, in front line, 3 companies of the Fusiliers upon the left, 3 of the Grenadiers in the centre, a section of Jägers on the right, and scattered along the entire front, men of the 74th, 77th, and 39th. Both the 12th and Grenadiers still retained a company in reserve; whilst far away to the right, almost in rear of

the Forbacherberg, the half-company of 9/12 was on the point of debouching from the wood. This detachment had been followed by a small portion of 5/8, which, observing a hostile movement against the right of Von L'Estocq's line, had advanced up the long ravine, and, by drawing the enemy's attention to itself, had effectually arrested his attack.

In front of the main line of the 9th brigade, the open ground rose at a gentle gradient to the crest of the Forbacherberg, 50 feet above them, and 600 or 700 paces distant. Shelter trenches, filled with infantry, girdled the grassy knoll; and the appearance of the Prussians on the left front and flank, was the signal for a rapid and unrestrained fire. Further advance up the smooth glaxis-like slope was impossible; so Colonel Von L'Estocq sent down an order for the Jüegers to advance to his support, and, when his right was strengthened by the approach of this battalion, gave the word to renew the attack.

The 12th, one company in reserve, faced the open slope; but the Grenadiers, in the same formation, brought up their left shoulders so as to profit by the wood which curved round towards the rear of the Forbacherberg. Small parties of the enemy barred their passage through the thickets, and the desultory wood fighting was renewed, prisoners being taken on either side. However, the battalions were making progress, and away on the right the truant half company of the Fusiliers had actually penetrated unperceived to the rear of the French position, and had arrived within a hundred paces of the flank of the artillery. This venturesome detachment had dwindled to two officers and a dozen men. The rest of the original fifty had succumbed either to the enemy, or to exhaustion, or had straggled in the wood, and the unexpected appearance of this handful of riflemen although it had surprised, had not disconcerted the enemy. A rush was made upon the guns; but a strong force of infantry charged down on front and flank, and drove back the little band to the cover of the wood. Here, on the border, it faced about, for 5/8 together with men of the 74th and 77th, came up most opportunely on the left, and a hot independent fire quickly put an end to the pursuit.

The time was now about 7.45, and in every quarter of the field fortune appeared declaring for the Prussians. Von Woyna's Brigade had re-won the copse, and was pressing forward towards Stiring-Wendel; the left wing in the Gifert Wood and on the Rotherberg, although fiercely assailed by the French batteries, still held its ground; and the position gained by Von L'Estocq's battalions threatened to pierce the very heart of the defence.

Frossard's troops had been engaged since 12 o'clock. The heat had been oppressive, the battle fierce, and the men had not eaten since the early morning. The last reserves had been exhausted shortly after 5 o'clock; and whilst a steady stream of reinforcements was still supplying fresh strength and energy to the enemy, no tidings had been received of the approach of Bazaine's divisions, and it must have become apparent to the French soldiery, that the Second Army Corps d'Armée was abandoned to its own resources.

It has been the fashion to praise the offensive dash of the French soldier at the expense of his powers of resistance; it is almost traditional to exalt the one and to depreciate the other, and there is no doubt that the attack is more congenial to the national temperament. Nevertheless, we find Frossard's men at Spicheren, after a defensive battle of seven hours' duration, during which the right wing on the plateau had executed one of those retrograde movements which are generally supposed to weaken the morale, still opposing an unbroken front to the constant pressure of the enemy. But, although the second line was still intact, the main position had been lost; and if, realising the quality of the men, we might believe that they were capable of further resistance, still after the work they had done and the heavy stress of the battle, we should certainly expect to find them too disheartened and exhausted to venture once more upon the counter-stroke.

But there was one French general on the field who knew the temper of those he commanded, who felt that despite their weariness, their losses, and their repeated failures to recover their lost ground, the spirit of his infantry was still untamed. Whether the movement was intended to cover the withdrawal of the troops from the valley, or whether it

was a vigorous effort to drive the Prussians from the heights and dash them back upon the Saar, must remain unsolved; but it is a matter of fact, that between 7 and 8 o'clock, General Laveaucoupet gave orders for a general advance of his whole line, covered by the fire of the reserve batteries, which had by this time taken post upon the Pfaffenberg. As the twilight began to settle on the field, the grassy slopes of the Forbacherberg and the Spicheren Ridge became alive with men. Leaving their trenches and dissolving into swarms of skirmishers, supported by battalion columns, the French with loud cries and a fierce storm of musketry swept down the surface of the plateau.

And now was seen the value of the position Von L'Estocq, ascending from the homesteads, had won upon the flank. The men of the 12th fell back before the rush, but the Grenadiers, favoured by the shelter of the wood, held fast upon their right. Each battalion, fortunately, had retained a company in reserve, and this accession of strength at a critical moment, gave fresh vigour to the hard-pressed Prussian line. After a brief, but bloody combat, the enemy was driven back to the Forbacherberg.

But, whilst a portion was left to clear the flank, the main-body of the French had pressed on rapidly towards the Rotherberg and Gifert. The reserve company of the 12th, held back on the slope to the left rear of the battalion, was roused by the shouts of the French and the heavy fire. To the left was a little clearing, where the thin outskirts of the Spicheren Wood gave a view of the open ground beyond the deep ravine. The left section rapidly deployed, and lining the border of the clearing, assailed at a range of 500 yards the flank of the attacking column. In the fast gathering darkness, the effect of the first two volleys could not be seen; but, at the third, large numbers were observed in confusion and falling back, and a rapid independent fire scattered them in flight. The Rotherberg was saved; against the guns and worn-out infantry that held the spur, only unsupported groups advanced, to be easily repulsed.

But on the southern border of the Gifert the storm broke fiercely. The throng of skirmishers, dashing quickly

forward, and firing as they came, covered the advance of the solid lines in rear with a veil of smoke ; and this and the failing light combined to render the aim of Prussian riflemen uncertain. Already the line, under the tempest of shells that preceded the infantry attack, had begun to waver ; the trees were cut to pieces by the iron splinters, and the countless echoes crashed through the darkening thickets with a stupendous din. Only the entreaties of their officers, and their gallant example, had hitherto held the men fast under the cannonade ; but when the hail of bullets mingled with the heavier missiles, and the line of fire pressed rapidly up the slopes of the great ravine ; when the detachments in the open rushed back in confusion to the wood, for a moment it seemed as if the border must be yielded. But, dating from the extraordinary victories of 1866, the Prussian soldiers had come to have a supreme reliance on the needle-gun ; and when the attacking swarms, led by their officers, mounted and on foot, with a gallantry which, even at that moment, extorted admiration from their foes, rose from the ravine and came within effective range of the trusted weapon, the wavering line grew strong as a bar of steel. Discipline and training once more asserted themselves ; the independent fire was steadily delivered ; and, at a distance of 200 yards from the position, the attack was checked. The French battalions, unable to push on further, held for some time the ground they had re-won, but, as darkness fell, drew slowly back on Spicheren, whilst from the commanding slopes of the Pfaffenberg, Frossard's massed artillery swept the field.

No attempt was made by the Prussians to follow the retiring foe towards Spicheren, although some small detachments, composed of officers and men of various battalions, once more moved into the open ; but, on the extreme right, a desperate onslaught was made by Von L'Estocq's battalions on the Forbacherberg. During their advance upon the shelter trenches, the companies lost all semblance of tactical order, and systematic prosecution of the attack became impossible. Groups of men of different regiments rushed forward under the guidance of individual officers, sergeants, or even energetic privates, at one time beaten back, at another swept on by the accession of small supports

collected by some one in authority and thrust into the fighting line. The fight raged hotly at short range, and a few brave men, in isolated clusters, dashed up the slope against the trenches and came to close quarters with the foe. Bayonets were even crossed; but the French stood firm, covering the retreat of their comrades to the Pfaffenberg, and the Prussians were beaten back to the shelter of the wood.

Von L'Estocq's attack had been so effectually checked, that F/8 together with two battalions of the same Army Corps having arrived, the commander of the 9th Brigade wished to employ these fresh troops against the Forbacherberg, and subsequently to advance on Forbach with a mixed detachment of various regiments. Both enterprises were, however, countermanded by General Von Stülpnagel, commanding 5th Division, in consequence of the darkness, and the apparently general retreat of the French.

The fight for the Forbacherberg died away, the hostile fire ceased, and the round hill, so lately girdled by a ring of rifles, stood out lonely and silent in the darkness. The defenders had withdrawn in good order, leaving neither guns nor wounded behind them; and when the assailants gained the crest the hostile columns were seen vanishing across the dusky ridge. Six full ammunition waggons, whose teams lay dead or disabled, fell into the hands of the Fusiliers, together with a quantity of entrenching tools; and behind the hill were found the knapsacks which their opponents had thrown off before they joined the fight.

Away to the left Spicheren was burning; and on the slope of the dark upland beyond were seen the incessant flashes of Frossard's guns, blots of flame on the heavy cloud of slowly rising smoke. The roar of musketry and the harsh rattle of the mitrailleuse, which for seven long hours had pealed across the plateau without a moment's respite, had ceased at last, though deep in the valley, round the blazing roofs of the Stiring Foundry and far away at Forbach, still rose the tumult of the battle.

Shortly after 7 o'clock, General Von Steinmetz reached the field, but refrained from interfering with the conduct of the engagement.

THE BATTLE IN THE VALLEY.

AFTER 7 O'CLOCK.

At the time when the French were pressing rapidly through the copse and down the Forbach Valley, and General Von Zastrow was directing the Prussian artillery to advance to the Folster Heights, the three battalions of the 52nd Regiment, accompanied by their brigadier, Von Schwerin, were approaching the Galgenberg.

These troops comprised the whole of the infantry available as reserve, and it is certainly remarkable that when Von Zastrow, the senior officer present on the field, ordered the artillery to move forward, he did not at the same time call upon the 52nd to assist in checking the French advance against the Prussian right.

Why he did not ask for support must remain unexplained. Be this as it may, about 7.15 p.m., when Von Woyna was bringing up his broken brigade to the support of the small force still within the copse, the 52nd approached the line of guns upon the Folster Height to assist Von L'Estocq's attack on the Spicheren Wood.

But, just as L'Estocq's battalions deployed before the Spicheren Wood, the French artillery opened a heavy fire from Stiring Wendel, in order, probably, to cover the retreat of their infantry from the copse, and General Von Schwerin thereupon sent six companies of the 52nd against Stiring Wendel; five, the 11th and those of the 2nd battalion, continuing the wheeling movement which had already commenced against the Spicheren Heights. It may be mentioned, before relating the result of the last attack upon the village of Stiring Wendel, that the latter battalion advanced with the 5th and 8th companies in front, the remainder following in second line. After passing the Baraque Mouton, and driving back some parties of the enemy who still hung about the woods, the five companies, preserving the same order, advanced up the ravine, (the leading companies on either edge, the others in close column along the trough), gained the upper edge of the Spicheren Wood, and moved on to the deserted Forbacherberg.

Meanwhile, over the open and undulating ground which stretched before the right wing in the valley, the 4th and 10th Companies, with marksmen extended, led the attack on Stiring Wendel and the French artillery. The 9th and 12th, in company columns, furnished a second line; the 2nd and 3rd, in half-battalion column, the reserve. Within the copse, upon the right of the 52nd, the mixed battalions of the 27th and 28th Brigades, under General Von Woyna, were rapidly pressing forward; but the progress of General Von Schwerin's six companies, exposed as they were to the heavy fire of the hostile guns, was slow and difficult, and after a short time came to a stand.

The officer commanding the artillery on the Folster Height was, however, keenly observant of the fight, and as Von Schwerin ordered up the 5th Company of the 2nd Battalion 8th Grenadiers, which had hitherto been stationed at the mouth of the Baraque Mouton ravine, to reinforce; more powerful assistance was sent forward in the form of a light battery.

Taking post on the level near the Golden Bremm the six 9-pounders engaged the enemy's guns at a range of 1,400 paces. Von Woyna's skirmishers had meanwhile reached the southern outskirt of the copse, and the French batteries fell back; but the check they administered to the attack of the 52nd had enabled Bataille's battalions and part of Vergé's Division to withdraw unmolested to the heights. The village, however, was not left untenanted. A strong rear-guard remained to cover the retreat of the left wing and with these troops Von Woyna's and Von Schwerin's men became briskly engaged.

It has been remarked by one who has studied the Franco-German War very thoroughly indeed, that the French, inferior as in many essential respects their tactics were, possessed extraordinary skill in the art of conducting retreats. Of this capacity Spicheren is almost as remarkable an instance as Beaumont itself; and the manner in which the garrison of Stiring Wendel was drawn off to the Spicheren Heights deserves particular and detailed mention.

When the French artillery withdrew, the troops left in position were the 32nd in the foundry, the 55th between

the foundry and the high road, and the remnant of the 3rd Chasseurs in the wood to the right. There were also many stragglers and stray detachments in Old Stiringen and in Stiring-Wendel. The 55th Regiment (two battalions), in execution of the order to fall back from the northern quarter of the Stiring Copse, whither they had pursued the 39th and 77th, had re-formed on the southern edge. The officer in command then gave the edge of the Spicheren Wood, on the other side of the valley, near the cross-roads, as the point of assembly, and the battalions dashed across the open at the double. The Prussian 52nd was then advancing from the Folster Height, and the 55th, passing straight across its front, was assailed in flank by a heavy fire. In the twilight, at a range of 600-800 yards, the needle-gun proved very ineffective, and when three of Von Schwerin's companies advanced at the charge, the 55th had already reached the wood.

The Prussians appear to have hesitated to move forward whilst it was uncertain whether the foundry was still strongly held, and the commander of the 55th, calling up his reserve battalion, prepared to defend the village until the troops ascending the heights had got well away (31).

Moving into the open ground in rear of the Spicheren-Schoneck Road, he first of all, with whatever materials came to hand, made a barricade from the edge of the foundry mound to the high road; and then, behind this shelter, deployed two battalions in a thick chain of skirmishers without supports. Two companies of the reserve battalion were extended 300 yards in the rear as second line; and 200 yards further back on the right and left flanks were posted two small columns of two companies each.

According to the French account from which these details are taken, these dispositions had all been made before the Prussian attack was renewed. The movement began from the copse, a thin line of skirmishers, backed by reserves, which every moment increased in strength, advanced by rushes of 50 paces towards the barricade. The French fired slowly, for even when the attack came to a stand along the road, 200 paces distant, so dark was the night, and so dense the clouds of smoke that rolled across from the blazing foundry

and the village, that the flames of the conflagration served to show no more than a thick black line, indistinctly seen against the dark background of the slopes in rear.

The fire of this line was irregular but heavy, and it was observed that the skirmishers were being gradually reinforced.

At the end of twenty minutes, the fire ceased. A loud hurrah rose in the enemy's ranks. The French, rifles at the "ready," awaited the assault. A second hurrah, and then—silence! Was it doubt, or hesitation? A third hurrah! This time the silence was rudely broken. Through the night, from beyond the barricade, rang out a cry of 'Vive L'Empereur,' and taken up by a thousand voices, it was the signal for a crashing volley, followed for two or three minutes by rapid independent fire. When the smoke cleared away, the Prussians had disappeared, and the flash of their rifles on the border showed they had once more retreated to the copse.

The Staff History mentions nothing of this phase of the engagement, but the account is so circumstantial, and explains so satisfactorily the fact that the French retreat from Stiring Wendel was unmolested, that despite the silence of the Prussians, it bears the stamp of truth. After the repulse of the 52nd, General Vergé withdrew the 32nd Regiment from the foundry and with it all the stragglers that he could find; but it seems that many were left behind, for an obstinate fight broke out in Old Stiringen and about the slag heaps near the foundry, and the French continued to offer resistance to Von Woyna's men until after 11 o'clock.

The 55th had been ordered by their brigadier to hold the barricade until the 32nd had made good its retreat. About 9 o'clock, the regimental commander, finding the Prussians disinclined to advance, withdrew the two battalions of his first line, and re-formed them 200 yards behind the reserve. An hour afterwards, the enemy's patrols appeared. The French retired slowly, halting and fronting whenever the Prussian scouts fired on the extended line that covered the retreat. This was repeated ten times, and it was long past midnight before the battalions, by the light of the rising moon, found themselves on the Schoneck Road within the Spichenen Wood.

The Prussians, in the meantime, according to the Staff History, although they had penetrated to the foundry, showed little inclination to push forward towards Stiring Wendel. "The fighting became more languid, General Von Schwerin, however, did not deem it advisable to remain "for the night immediately in front of a place not entirely "abandoned by the enemy; therefore, with the concurrence "of the commander of the division, he withdrew the troops "(52nd), who had meanwhile re-formed, from Stiring Wendel "at 8.45 p.m. Some isolated detachments still offered "stubborn resistance at this point." This paragraph fits in well enough with the French account of the defence of the barricade, and the events described in the succeeding sentences may have easily occurred after the withdrawal of the 55th. "In order "to prevent our own men firing into one another in the dark, "the General sounded the 'cease fire,' and ordered the whole "of the troops to advance with loud hurrahs against the west "side of the village, whereupon the enemy gradually ceased "to offer any further resistance. While the 52nd thus captured the greater part of the south of Stiring Wendel, and "in searching it made 300 prisoners, the 3rd Battalion, 39th "Regiment, (reduced to 6 officers and 150 men), scoured the "northern farm-buildings and slag heaps. 1,200 to 1,500 unwounded prisoners," adds the Staff History, "fell into the "hands of the victors," the majority of whom, it appears, were taken in Stiring Wendel. It must be allowed, notwithstanding, that the French retreat, considering the darkness, the dispersion of the troops in the houses, the difficulties of extricating masses of men from a maze of narrow streets, the long train of artillery, and the confusion incident on hard fighting, was an exceedingly well-executed movement.

This phase of the battle, we may notice, offers further instances of the difficulties of leading the larger units.

General Von Schwerin, commanding the 10th Brigade, led the 52nd from the Reppertsberg in person. The 12th Regiment, forming the other half of his command, had been already disposed of; the 1st and 2nd Battalions taking part in the holding of the Rotherberg and the attack on the Gifert Wood; the Fusilier Battalion in Von L'Estocq's flank movement from the Golden Bremm; and the two

squadrons of cavalry patrolling the left flank on either bank of the Saar. When the 52nd reached the homesteads the regiment broke into two, the general accompanying the right wing and calling to his support a company of the 8th Grenadiers, belonging to the 9th Brigade.

Moreover, at the close of the engagement, the infantry of the 5th Division, of which the commander, General Von Stulpnagel, was present after 8 o'clock at Stiring Wendel, was distributed piecemeal over the whole front of the line of battle, from Stiring Wendel to the Pfaffen Wood, the right wing of the 52nd on the extreme right, I & II/48 on the extreme left.

THE TURNING MOVEMENT OF THE 13th DIVISION.

The general direction of the advanced guard of Von Glümer's Division was the road leading from Wehrden through Great Rosseln to Forbach. A company of Jägers and a troop of hussars were pushed forward by Clarenthal towards Schoneck on the left flank, whilst the remainder moved in the following order:—

Van	{	1st and 3rd Squadron 3rd Hussars.
		2nd Company 7th Jägers.
Reserve	{	II/55
		5/7 F. A.
		I & F/55
		1 Company 7th Jägers.

At 4 o'clock the column approached Great Rosseln, and the orders dispatched by the corps commander from Dilsburg at 1 o'clock, directing the divisional commander to throw out outposts towards Forbach and Ludweiler, to retain his main-body at Wehrden and Volklingen, and to discover by means of patrols the strength and intentions of the enemy at Forbach, were now received.

These orders had already been anticipated.

A communication had also been received from the headquarters, First Army, from which Von Glümer gathered that the Commander-in-Chief had no intention of entering upon a serious engagement beyond the Saar. Nor had the

enemy been met with. The hostile advance reported at noon had come to nothing ; and the din of battle, lost in the leafy forest, was no longer heard. The troops since 5 a.m. had marched 23 miles without halting to cook ; the divisional commander, therefore, ordered the advanced guard to halt north of Great Rosseln and to establish outposts. The main body went into bivouac at Volklingen, whilst the cavalry patrolled towards Forbach, where a considerable camp was visible. At 6 o'clock the cannonade again became audible ; at the same time the hussar patrols brought back intelligence that the battle was still proceeding ; and a galloper who had been sent off by the corps commander at 4 p.m. arrived with a despatch giving information of the position of affairs, and demanding the intervention of the division. (32)

Without delay, the troops were set in motion to the assistance of their comrades marching along both sides of the brook which takes its name from the villages of Rosseln ; F/55 and 5/7 on Emmersweiler ; the Jägers on the Tan Mill ; I & II/55 directly up the highway. The 6th Light Battery was ordered up, and the main-body ordered to follow as rapidly as possible. The 1st Squadron of Hussars, reconnoitring to the front, reported that the heights west of Forbach were entrenched and strongly occupied.

I & II/55 thereupon formed half-battalion columns in the forest, preparatory to an advance on either side the road. About seven o'clock 6/7, coming into action in an open field between the chaussée and the brook, brought a steady fire to bear upon the left flank of the enemy's position on the Kaninchenberg, at a range of 2,100 yards ; F/55 occupied Emmersweiler and the wood in the rear.

On the 1st Battalion 55th attempting to debouch from the forest north of the road, it was received with so hot a fire that it could make no progress. The advance of the 2nd Battalion was, on the other hand, unchecked ; a portion of the shelter trenches was carried, and the Jägers, ascending the south-west slope of the ridge from the Tan Mill, took the position in flank.

The French were very weak. 1 company of Engineers (100 men), 200 reservists of the 2nd Line, under a sub-lieutenant, who had arrived during the afternoon by railway

two squadrons of the 7th Dragoons, besides two batteries of the reserve artillery, were the only troops available for the defence of Forbach. The guns remained within the town. The dragoons dismounted and helped to man the trenches; but when the Prussians began to envelope the left flank of the position, Colonel Dulac ordered his two squadrons to mount and cover the withdrawal of the infantry by a charge.

Though boldly executed in the failing light, the attack was repulsed; the 5th Company of the 55th and the 3rd of the Jägers reserving their fire until the horsemen came within point blank range.

4 Officers, 25 men, and as many horses were killed or wounded.

But the infantry was enabled to pursue its retreat unmolested. The Prussian commander was unwilling to risk a night attack upon the town, and only a few small parties followed the French. From a point where the railway crosses the high road a brisk fire was opened on them, and the advanced detachments retired to the Kaninchenberg. The right wing column had meanwhile reached Emmersweiler, and 5/7 took up a position on the heights west of Forbach. 6/7 also moved to the front; and the two batteries brought an effective fire to bear upon the outskirts of the town and on the railway. A train which was starting south was compelled to put back; another, bringing the first and only infantry reinforcement sent by Bazaine from St. Avold, retired without entering Forbach. The main-body of the division assembled about 9 o'clock at Little Rosseln. A report from the battle-field, probably from the detachment on the left flank, had caused the 15th Regiment to turn in the direction of the Stiring Wendel, but the darkness prevented it taking up connection with the 14th Division, and the movement was not long continued.

The small French force had done its duty well; of the 13th Division, 5 officers and 92 men fell, of whom 80 belonged to the 55th.

As we have already seen, both on the heights and in the valley, the detachments left by the French to cover the retreat had repulsed every attempt of the enemy to interfere with the operation.

The stand made on the Forbacherberg and before Stiring Wendel had enabled the Second Corps to get clear away. So exhausted were the Prussians, and in such extreme confusion at every point, that a further advance would have been no less difficult to initiate than to carry out. By nine o'clock, when, although the French rear-guard was still holding out, it was certain that Frossard had definitely abandoned the field, five fresh battalions had reached the Spicheren Heights, and the remainder of the 16th Division, nine battalions, was assembling at St. Johann. These reinforcements were not, however, brought to the front until the action ceased; nor, save by patrols, was any effort made to push beyond the ground that had been won with so much difficulty. The French battalions were still intact; their retreat, so far from being a rout, was made in so leisurely a fashion that the bivouac fires of their rear-guard were to be seen upon the Pfaffenberg.

At the same time, the Prussians had been careful, even before the outposts were established, to secure themselves from attack and to discover what they could of the enemy's movements. Sentries were posted by each battalion immediately the battle ceased, and frequent patrols reconnoitred far to the front. Some men of the French rear-guard in search of water were taken by a sergeant's patrol of the 48th regiment, and the information extracted from them confirmed the impression that the Second Corps d'Armée was actually retreating and had not retired merely to take up another position.

PRUSSIAN OUTPOSTS AFTER THE BATTLE.

In the valley, picquets were established on either side of the Forbach high road, between the town and Stiring Wendel, the right wing resting on the glass works, the left on the wooded crags of the Kreutzberg.

III A.C., drawing forward its two last arriving battalions, F/8 and F/20, furnished the outposts on the plateau, south of the Gifert Wood; as far as the Spicheren Knoll the ground was occupied by F/8. Next in order, on the right,

came II/8, extending as far as the northern slope of the Forbacherberg; the further slopes were held by F/12. A wide gap intervened between the latter battalion and the left wing of the 52nd Regiment beneath the Kreutzberg, but all the roads were guarded, and the woods patrolled.

The 3rd and 4th squadrons of the 12th Dragoons were also brought up to the heights, and two troops, sent forward beyond Spicheren, found a camp still occupied near Etzling. In the course of the night, moreover, two squadrons of the 17th Hussars advanced by St. Arnual and Grossblierdstroff, and captured prisoners.

No attempt, however, was made by the cavalry to maintain touch with the retreating foe; of the cavalry division (the 12th Dragoons were attached to the 5th Infantry Division), not a single squadron ascended the plateau.

The infantry of the 5th Division which was not employed on outpost duty, concentrated on the Reppertsberg, viz., I and II/48th, I/8, 3rd Jägers, I and II/12. I and II/20, which had reached St. Johann by rail late in the evening, followed their Fusilier Battalion, and took post near Baraque Mouton. The Fusiliers of the 48th, who received no orders where to assemble, retired to Saarbrücken, and bivouacked in the square of the Town Church.

The 14th Division assembled generally in the low ground about Stiring, round the copse. Some battalions, amongst them those of the 39th Regiment, remained for the night where they had been last engaged. The second battalion 53rd had arrived shortly after seven o'clock, having marched 27½ miles from Wadern, via Neunkirchen and Lebach, in thirteen hours.

The main body of the 16th Division did not come up until the struggle was over; it bivouacked between St. Johann and Malstatt, where it is joined by the 40th Regiment.

The artillery bivouacked generally in their final positions, on the Rotherberg, the Folster Height, and Galgenberg.

In addition to those which had taken part in the fight, the whole of the horse artillery of III and VII Army Corps (4 bat-

teries), and two F.A. batteries of the 6th Division (III Army Corps) came up during the evening; a second battery of I Army Corps, making 18 batteries in all, also arrived by rail from Neunkirchen.

Besides the 1,200 to 1,500 unwounded prisoners, many wounded officers and men fell into the hands of the victor; camp equipment abandoned by the 1st and 3rd divisions, and, on the day after the battle, the great magazine at Forbach, and a pontoon train, were also seized.

We have now followed, hour by hour, the fortunes of the battle, from the appearance of the Prussian scouts upon the Saarbrücken Ridge, to the retreat of the French from Spicheren and Stiring Wendel. We have seen the 14th Division hurled against a formidable position which had not been reconnoitred; we have seen it from 1 to 3 o'clock struggling unsupported on a wide-extended front—11,000 infantry against 25,000. And whilst Von Kamecke's slender line bent round the flanks of the enemy's position, and, dashing again and again at his heavier masses, staved off defeat by the vigour of its attack; we know that, within 15 miles of Spicheren, stood 40,000 French and 36,000 Prussians.

Had the whole of these assembled on the field, the French would have out-numbered the Prussians by 18,000 men.

Between 3 and 6 o'clock, 14,000 Prussian infantry reached Saarbrücken, well-nigh equalizing the numbers of the opposing forces, and rescuing the 14th Division from imminent defeat. On the other hand, except Juniac's Dragoon Brigade, Frossard had received no reinforcements whatever.

But even at 6 o'clock the French were not inferior in strength; and, although pushed back upon the plateau and deprived of the Golden Bremm, the heavy counter-strokes which they dealt on either flank before retreat was ordered, proved that the Second Corps d'Armée was still an effective instrument for battle, and that the veterans of France were not surpassed in gallantry and endurance by their younger enemies.

If, then, Frossard's battalions, at the close of the day, when the numbers on both sides were practically equal, came within an ace of regaining their lost ground, is it possible to doubt, had even half of Bazaine's 40,000 men appeared at any period of the battle, that the Prussians would have been driven back upon the Saar?

We may well ask, therefore, how it was that, although four divisions of French infantry were encamped on the morning of the 6th within 12 miles of Spicheren, not a single bayonet came to the assistance of the Second Corps.

These four divisions composed the 3rd Corps, commanded by Bazaine. The 2nd Corps was also under the order of the marshal, forming his advanced guard. How far was Napoleon's favourite general responsible, not only for the defeat of a portion of his force, but for the loss of a victory?

On the evening of the 5th he had been placed in command of the French left wing; but, in consequence of the failure of the cavalry to procure information, he was without knowledge of the enemy's dispositions, and unable to conjecture where the attack that was believed imminent would fall.

Moreover, for the past 48 hours, the movements of Von Steinmetz' troops along the Saar had rivetted the attention of the Imperial Staff, and had induced them to suspect that the Prussians would cross the frontier near Saarlouis. This impression had been communicated to Bazaine, and the whole of the information that came to hand, on the night of the 5th and the morning of the 6th, assisted to confirm it. A despatch from Metz advised him of an approaching attack on his left flank by way of Carling. Spies had reported that the villages from Conz to Saarlouis were full of troops, and that on the heights above the latter fortress a large force of artillery and infantry had been observed. Hostile scouts were also seen near St. Avold, and from the 4th Corps d'Armée on his left came news of the presence of the enemy's patrols near Ham-sous-Varberg.

What intelligence he received from the Second Corps, covering the centre of his line, we do not know. General

Frossard says that the marshal asked for information on the night of the 5th, but he does not state how far he himself was able to comply with the demand. In fact, his account of his relations with his superior is unsatisfactory in the extreme; some telegrams, and those not the more important, are given *verbatim*, others in general terms, some he omits to mention; and, as to the hour of despatch, a matter of the greatest moment, in one instance at least he has made a grave error. Thus, he tells us that, between 10 and 11 o'clock, he informed the marshal that he was engaged in a battle. Now, at that hour, only three Prussian squadrons and no infantry whatever had crossed the Saar. The attack of the 14th Division did not begin till after 12.

A great mass of evidence as to the proceedings of the French generals on the 6th of August was elicited at the court-martial held on Bazaine in 1871, but the statements are so conflicting that the whole must be rejected, and with it Frossard's narrative, except where it is confirmed by outside or hostile testimony. This will not, however, preclude us from examining the circumstances. There are facts which cannot be disputed, and telegrams, the authenticity and receipt of which have never been questioned. On these we may base our conclusions.

At 9 o'clock, Frossard telegraphed that he heard cannon firing at the front, and suggested that Montaudon should send a brigade from Saarguemund to Grossbliederstroff and that Decaen should advance to Merlebach and Rossbruck.

At 10.40 he reported that the enemy had shown himself at Merlebach and Rossbruck.

At 11.15 Bazaine replied that he had sent Metman's Division to Bening, and Castagny's to Theding, and asked Frossard to send a brigade to watch Rossbruck, adding that if the Prussian attack was really serious it would be well for the French to concentrate on Calenbronn.

About this time, the marshal himself proceeded with a reconnaissance towards Carling and was fired at by Prussian scouts.

At 2.25 he telegraphed that he had ordered Montaudon (by telegraph) to Grossbliederstroff. Now, a reference to the map will show that these various movements would

have brought the three divisions of the 3rd Corps into line on the Calenbronn position, with Montaudon at Grossbliederstroff in advance of the right, and Decaen at St. Avold in rear of the left, maintaining connection with the 4th Corps. The marshal had also advised Frossard, if the Prussian movement from Saarbrücken was really serious, to retire on Calenbronn. In fact, the dispositions adopted were equally well-adapted to meet attack from Saarbrücken or Saarlouis. So far so good; but Bazaine, having issued his orders, appears to have awaited the development of events instead of using every effort to discover what the enemy was about. He sent no strong reconnaissance in the direction of Saarlouis, nor did he attempt to ascertain through one of his own staff officers the importance of the attack on the Second Corps, or whether Frossard was about to fall back on Calenbronn. St. Avold, be it remembered, is but twelve miles from Forbach, and connected with it by a line of railway.

The reason he himself did not proceed to the scene of action was, he explains, the necessity of remaining in close communication with the Imperial Head-Quarters. We may profitably compare with this the conduct of the Commander-in-Chief of the First Prussian Army, when he first received news that a serious engagement was in progress. Except in this respect, Bazaine was not to blame. Immediately Frossard reported an attack probable, Metman's and Castagny's Divisions were ordered to advance, and Frossard informed of their destinations. On receipt of a further report, at 2 o'clock or thereabouts, to the effect that the actions had already attained the dimensions of a battle, the marshal telegraphed to Montaudon to march to Grossbliederstroff, without impedimenta, in order to support Frossard's right; despatched Juniac's Brigade to Forbach; and at the same time sent a staff-officer with orders for Castagny to join the Second Corps. In effect, what he did was this. 1st. At the first alarm, 20,000 men were advanced in support to within six miles of the advanced guard; and the advanced guard advised to fall back into line with the support. 2nd. When the engagement was announced as serious, 10,000 men were ordered to support the advanced guard, and 10,000, with the Dragoon Brigade, to march directly to its assistance.

From 2 to 5 o'clock, he appears to have received no further communication from Frossard, for at the latter hour we find him telegraphing—" *Donnez-moi des nouvelles pour me tranquilliser.*"

Between 5.30 and 6 o'clock he hears that Frossard's right has been obliged to fall back, and in response to an urgent demand for succour, recapitulates the position of the divisions he had sent forward in support.

A few minutes afterwards another telegram comes in, announcing that "The battle, which has been very heavy, is dying away, but will doubtless re-commence," and adding, "send a regiment."

The 6th line regiment of Decaen's Division proceeds in two trains to Forbach.

Towards 8 o'clock, comes the last despatch, "We are "turned from Wehrden, I have retired to the heights."

To this the reply is, "I have sent all I can. I have only "three regiments to guard the St. Avold position. Explain "exactly the positions that you consider should be occupied."

With the marshal's conduct, no fault, save that already alluded to, can be found. It was not his fault that Frossard refused to fall back on Calenbronn; nor that, after 2 o'clock, when withdrawal was no longer possible, that he should have neglected to call up or communicate with the three divisions that had been sent up to support him. It was not his fault that the telegram sent to Montaudon should not have been delivered to that general, who was conducting a reconnaissance beyond Saarguemund, until after 4 o'clock; nor that the messenger sent to Castagny should have been nearly three hours finding a division, which was wandering vaguely about the country.

Frossard, when he made up his mind to hold his ground, would have been perfectly justified in calling up the divisions that had been sent to support him on the Calenbronn position; Bazaine evidently expected him to do so, and very properly left it to him, as it was impossible with the very meagre information forwarded by Frossard, not knowing whether the attack was being delivered in front or flank, to decide, at a distance from the field, to what point the divisions ought to march—whether they would be required for an

offensive movement, or merely to cover a retreat on Calenbronn. It probably seemed superfluous when indicating their positions, to add, "they are at your disposal." In fact, Bazaine acted more like an officer trained under the German system and relying on the judgment and initiative of his subordinates, than one accustomed to the red-tape routine of France.

The marshal did all he could, and it is important to notice that when he learnt, for the first time, that a battle was in progress, the various mischances which occurred would have made it impossible, had all his subordinates merely waited for orders, to have brought up his three divisions to Frossard's help before a very late hour. Montaudon did not reach Grossbliederstroff till 7 o'clock. The messenger did not find Castagny until 6. Metman, at 3, was still seven miles from Stiring Wendel.

We shall see, if we compare the proceedings of the French and Prussian subordinate commanders, that when bodies of troops are located at a distance of several miles from Headquarters, their timely intervention in an unforeseen battle must depend on the initiative of their immediate commanders. Had Bazaine's generals been capable of acting with the same promptness and decision, and kept themselves as well informed of the state of affairs at the front, as the commanders of VIII and III Army Corps, and of the 16th and 5th Divisions, at least 30,000 of his troops would have reached the field in time.

Observing then, first of all, that Frossard, when he ultimately fell back on Saarguemund, made no attempt either by messenger or telegraph to inform the marshal of the direction of his retreat, or indeed, that he had retreated at all, thus rendering it impossible for Bazaine to come to any decision as to future movements, the following account of the proceedings of the three divisional generals, makes it evident that the French General Staff was as incompetent as that of the Germans was efficient. And to show that disregard of the value of time was a vice not confined to the 3rd Army Corps, it may be added that at the battle of Woerth, the twin disaster to Spicheren, it deprived Marshal McMahon of the support of the 5th Corps, numbering 28,000 men :—

(1.) At mid-day the cannonade at Spicheren was heard at Saarguemund, but General Montaudon, although he had sent out reconnaissances in the direction of Neunkirchen to his front, took no steps whatever to ascertain the meaning of the action on his left. At 3 o'clock the order was received to move to Grossbliederstroff to support Frossard's right. The troops were not set in motion, as the general was on reconnaissance, until 5 o'clock, and did not arrive in position until 7. No staff officer was sent either to communicate with Frossard, or to obtain information of the progress of the fight. During the night, the division retired on Puttlinge.

(2.) Castagny's division heard the cannonade at Puttlinge towards 11 o'clock. At 11.30, without waiting for orders, the general marched on Spicheren. After marching four or five miles, in a direction too much to the right, the sound of the guns was no longer heard, and the division halted. A staff officer sent out to reconnoitre met some peasants, who assured him that the French were victorious in the battle; and both he and his general were satisfied with the intelligence so obtained. The division returned to Puttlinge. At about 5 o'clock, the guns were heard once more, and the troops again took the road. At 6, Castagny received an order from Bazaine to join the Second Corps. At 9, Folkling, three miles from Spicheren, was reached, and the leading brigade, being pushed on to Forbach, learnt that the Second Corps was retreating towards Saarguemund. The division fell back on Puttlinge.

(3.) At mid-day, Metman's division received orders from Bazaine to move on Bening, where it arrived at 3.30. The cannonade was heard distinctly; but, no attempt was made to discover its meaning, and a third French general appears to have forgotten that the chargers of even infantry adjutants have legs.

At 7.30, on receipt of a telegram from Forbach, which Frossard declares was despatched at 4, it advanced on Forbach, and about 9 o'clock passed through the town. Learning that the Second Corps had fallen back, it ascended to the plateau and withdrew to Puttlinge.

(4.) Of the 4th Division, one regiment was sent at 6 o'clock to Forbach by Bazaine. The first train was arrested at 8 o'clock by the fire of the Prussians from the Kaninchen-

berg, and put back without entering the station. The remainder did not pass Bening; the troops, according to Bazaine, being ordered to disembark by the railway officials.

For the non-appearance of Montaudon's and Castagny's Divisions, Bazaine, as we have seen, was not responsible. To both he sent orders to join Frossard, but in the one case the troops did not start until two hours after the order had been received; in the other, they had already left their camp, and the staff-officer had many miles to ride before he met them.*

It may be remarked, however, that the Germans did not consider it sufficient, where time is all important, for a superior officer merely to issue orders. In such cases the representative of the commander who brought the orders remained, as a rule, to see that they were obeyed, or to notify immediately impediment or delay.

To say that the marshal should have proceeded to the battle-field in person, or have sent his Chief of the Staff with power to act in his name, is not the slightest excuse for the indifference of his divisional generals to the sound of the cannonade and their neglect to communicate with Frossard.

Throughout the day, so fateful to France, Bazaine's generals had behaved like mere machines, incapable of supplying themselves with information or of looking beyond their immediate commands. Their conduct was equally wanting in energy, in initiative, and in discipline, for the neglect of ordinary precaution, the lack of interest in the fate of the neighbouring divisions, the carelessness as to the issue of the day, point to an enfeebled sense of duty and in-discipline of the most harmful kind.

They have, however, found apologists; and, in order to point a moral, it may be well to discuss briefly the whole situation, both as regards themselves and their adversaries.

It has already been recorded how the Prussian divisions, brigades, and even smaller units, obeyed the mandate of the cannon thunder, and marched without halt or stay to the assistance of their comrades, and each division and brigade, by the system of patrols, which brought every separate body of troops into close connection, and, at the same time, disseminated the intelligence procured by the scouts over the large area occupied by the invading armies with extraordinary

* As a detail of staff work, we may note that the orders to Metman and Castagny are carried by the same officer.

rapidity, being made aware of the point where the enemy's main force was assembled.

The leaders, fortified by this knowledge, were relieved of all doubt as to the security of their flanks, and could calculate to a nicety the locality of the field of action.

The French, on the other hand, had neither patrols nor scouts. They were ignorant of the whereabouts of the hostile masses; unable to forecast, with any degree of precision, the point where the enemy would strive to break their line, Saarbrücken, Saarlouis, or Saarguemund; and absolutely without an inkling of Napoleon's design, whether to assume the offensive, to defend the line of the Saar, to march by the flank on Bitsche, or to retreat into the interior of France.

When the cannon was heard from the direction of Spicheren, and even when reports came in that Frossard was heavily engaged, doubts must have arisen whether this was not a feigned attack, and apprehensions have been excited that the real blow was about to fall elsewhere.

To the uncertainty, which, as a general rule, is the chief disadvantage of the defence, and almost invariably follows the loss of the initiative, the irresolution of the French generals must be attributed.

Nor was it possible to determine exactly the locality of the real attack. The advantages offered by the road and railway passing through Saarbrücken were great, and could scarcely be neglected by invading army; but the fact of the advantages being unmistakeable, would doubtless lead to the belief that the Prussians would avoid direct attack on that point, for there they would be expected, and would endeavour to secure the possession of the highways by skilful strategy.

Neither must the moral factors of the question be overlooked.

It was easy enough for the Prussians, with their ample information, with the knowledge of their superior numbers and of Von Moltke's intention to attack, to march to the cannon. Such a forward movement was strictly in accordance with the general idea. And it was clear enough, also, that the point of collision, should such take place, would be found on the Saarbrücken-Metz High-road.

There was no hesitation, therefore, when the reports of battle were received, in moving in the same direction. But it was far otherwise with the French. The vague information as to the numbers, dispositions, and designs of the Germans, served only to confuse. Moreover, all the subordinate leaders were utterly in the dark as to the intentions of Napoleon.

The movements he had ordered during the past few days appeared to point to a concentration eastward, for there had been a gradual drawing together in that direction; but all was indefinite and uncertain. The impulse which the haughty challenge and the rapid advance to the frontier had communicated to the army had died away. The indecision which prevailed in the Imperial councils had become apparent; and the subordinate leaders, without any tangible purpose to lay hold of and follow out, had become infected with this worst of military vices (33).

But, even if we admit that the initiative which resolves on a march to the cannon is far more difficult when holding a frontier than when attacking it, the French generals cannot be in the least degree absolved from blame. When an officer in command of a body of troops in the vicinity of the enemy has been ordered by superior authority to occupy a specific position, and the sound of distant battle strikes upon his ear, then, unless he has discovered by reconnoissance the position of the enemy's main force, and has thus obtained a clue to his designs, he will, in all probability, as were Bazaine and his divisional leaders, be embarrassed by the enemy's feints, by the presence of the enemy's scouting parties, and will become a prey to apprehension and vacillation. Even if he has specific orders, he should prepare himself for the unexpected. He should so study the situation, looking to front and flanks and rear, that in case any emergency, not covered by his instructions, demands his intervention, he may be able to act resolutely and wisely. More than all, he should be careful to establish and maintain constant communication with all bodies of troops within a day's march.

It was in their neglect to use this simple means of extricating themselves from their embarrassments, that the French generals were so terribly to blame (34.)

CHAPTER IX.

THE TACTICS OF THE BATTLE.

Under cover of a mixed detachment assembled and placed in Spicheren by his chief of engineers, Laveaucoupet's Division began its retirement on Saarguemund at 9 o'clock. The reserve artillery and Vergé's battalions followed, but by various routes, neither Frossard nor his Staff officers having done more than indicate the general direction of the retreat. Bataille, ordered to form the rear-guard, fell slowly back on Oetingen, and thence at daybreak upon Puttlinge.

The rearward movement of the 2nd Corps d'Armée, considering the severity of the fighting, the heat of the weather, and that the troops were fasting, was conducted at first in fairly good order. But it soon became apparent that the *moral* of the soldiery had suffered. The men felt instinctively that more than once victory had been within their grasp, that not they but their leaders had been defeated, and that, owing to the blunders of those in authority, their dash and endurance had been wasted. During the long night march the ranks became thinned by stragglers; many abandoned their arms; insubordinate cries were heard along the toiling column, and the name of the commander was made the burden of a ribald song.

Short halt was made at Saarguemund; and not until Puttlinge was reached after mid-day upon the 7th, were Vergé's and Laveaucoupet's wearied troops, who had not eaten for more than six-and-thirty hours, allowed to rest. Bataille's Division had already arrived.

Such was the general dislocation that it was found impossible to make any distribution of rations, and the men had left their knapsacks on the field. The troops were supplied on the following day, but much distress and priva-

tion resulted from the fact that the cooking utensils had been lost with the packs ; nor was it until the 12th and 13th, after the arrival of the Corps d'Armée at Metz, that these indispensable articles were replaced and the men enabled to prepare their meals.

Such was the French retreat. It was not a rout, the troops were not followed, and the greater part of the Prussian outposts were not even advanced so far as the second line of the defence. Not till the whole force had vanished in the darkness did the enemy set foot on the position. Almost the last blows that were struck beat back the foremost bodies of the assailants, and, at the end of the fight, in two places alone, against the Forbacherberg and Stiring Wendel village, was the attack being pressed ; elsewhere it had come to a standstill.

Was it necessary to have retreated? Metman's and Castagny's Divisions were almost on the field, Montaudon within $4\frac{1}{2}$ miles. The battle might have been re-commenced on the following morning with 30,000 fresh troops. It is true that Frossard was unaware that reinforcements were so close at hand, but we can imagine a man of more energetic and stubborn character holding on in the hope that during the night he would be able to bring his colleagues to his aid. Those familiar with the history of the Secession War will remember how, on the 1st of July, 1863, the Federal advanced guard, consisting of two Army Corps, was roughly handled at Gettysburg, but, although confronted by superior numbers, driven from its first position, and its right flank and rear threatened, held fast to its ground throughout the night. It had suffered far more severely, and had been driven further back, than the second corps at Spicheren; the remaining corps were at a much greater distance from the field than were Bazaine's divisions, but it was held by General Hancock in command, that "to have withdrawn would have been a retreat, and might have discouraged the Federal, as it would certainly have elated the Confederate troops. It would have been to acknowledge a defeat where there was no defeat." The ground was, therefore, held, and the battle of the next two days ended in a decisive victory for the Federals. But mark

the difference between the French and American generals. Immediately after posting his troops in their new position and handing over the command to General Slocum, Hancock rode back thirteen miles to the head quarters of the Commander-in-Chief, Meade; and the latter, who had already sent orders for the remaining Army Corps to move forward by forced marches, started for Gettysburg shortly before midnight. And to make the parallel closer between the actions, Meade, before his advanced guard became committed to an engagement, had half decided to concentrate on a position many miles in rear of Gettysburg.

The Prussian Staff History prefers to attribute Frossard's resolution to retreat to the attack on the Forbacherberg from the Golden Bremm. Frossard himself distinctly states that it was the appearance of the 13th Division before Forbach Town that chiefly influenced him; and, looking on the battle as a whole, it is difficult to disagree with him. At the same time, it is possible, that the fact of finding a hostile force in such close proximity to his centre may have had much to do with his final decision. When he reported to Bazaine that his left was turned, he merely said that he had withdrawn his whole force to the heights; and it may be the truth, notwithstanding his statement, that Von L'Estocq's attack ultimately induced him to abandon his position. We must remember that the Prussians would be naturally more inclined to attribute this retreat to their more skilful tactics and superior courage, than to the somewhat fortuitous appearance of a large body of troops on an unprotected flank; and we may be allowed, therefore, to hold the opinion that moral effect, rather than sheer hard fighting, was the true cause of the Prussian victory.

That Frossard was not merely unlucky there can be but little doubt. He had many difficulties to contend with, it is true, yet fortune was not unkind and his soldiers fought on with unflagging spirit. But throughout the operations, from the hour he abandoned the Saarbrücken Ridge, to that when he departed for Saarguemund, without informing Bazaine of his destination, his errors were very numerous. From many of these he would probably have been saved had his staff been more experienced. It does not appear that he assured

himself by personal inspection that the arrangements for the defence were adequate ; nor, especially important in the case of a broken position, that the different sections were so marked out and allotted as to render mutual support ; and he himself has recorded that, up to the time the first gun was fired, he was engaged in settling questions of administration with the Mayor of Forbach. Throughout the day, his influence on the action was confined to sending up supports as they were asked for. Thus, each individual commander was left to make his own arrangements for attack or defence without reference to his neighbour ; and the whole lacked the superintendence of the single authority who could ensure the adjustment of the several parts. It is possible, however, owing to the general want of organization and method, that Frossard was compelled to give his personal attention to numerous details, which, in an army fully mobilized and well ordered, would never have come before him. It must also be remembered that he was surprised by the attack, and that the field, wooded, broken, and extensive as it was, was a difficult one to supervise or to arrange for battle off-hand. At the same time, we cannot fail to appreciate the advantage that would have been gained had the ground been surveyed, and a line of defence selected, whilst the troops were falling back from the Saar. But, even if it could be shown that of this and other defaults paucity of staff-officers or some other equally good reason was the cause, it is impossible to avoid the impression that the French commander lacked energy ; and this impression becomes the stronger when we consider the promptitude and activity of his opponents. And this is especially true of his conduct of the battle. Until a late hour, he had hope of reinforcement, and intended, it seems, merely to hold his ground until the arrival of Bazaine. But, up to 3 o'clock, his 27,000 men were opposed by less than 12,000. Surely it was his bounden duty to have crushed, by a strong return, the inferior force which had placed itself so completely in his power ?

The leader who elects or is compelled to act on the defensive, from first to last should have but one idea, and that is the offensive. Even if fighting a rear-guard action or merely holding his ground until reinforcements arrive, he

must be ready to attack. Unless he has explicit orders to entice the enemy's whole force into a trap, he should watch for an opening, and if possible, deal with the attacking force in detail. War is too full of risk and mischance to admit of opportunity being allowed to pass.

The change from the defensive to the offensive is undoubtedly the most difficult operation of war, seldom carried out even by the greatest captains ; and it is this fact that renders the success of a defensive battle less decisive than the victorious offensive. It is no easy matter to gauge the right moment for the counter-stroke ; but it must be remembered that from the Spicheren Heights the approach of Von Kamecke's troops was clearly seen, and that their inferior strength must have been known soon after the battle opened. Never had a general a fairer opportunity for a decisive counter-stroke than Frossard.

The question arises, how should this have been executed, at what time, on which flank, and with what troops ?

As to the time, the counter-stroke made by Laveaucoupet with Doens' Brigade, was well chosen. There were then no troops whatever to be seen on the Saarbrücken Ridge. As to the place, the right flank seems in all respects to have been the most favourable. In the first place, an attack from that quarter, threatened directly the enemy's line of retreat, and it was possible to turn the ridge from the St. Arnual Wood, repeating the manœuvre of the 2nd, and passing over ground with which the staff, if not the troops, was already familiar. Had the 24th Regiment of Micheler's Brigade, together with the 40th, been ordered to clear the Gifert and hold the lower edge, Doens' Brigade sent down through the St. Arnual Forest to attack the Winterberg, and Bastoul brought up, as he was, to support the main-line, it is difficult to conjecture how the Prussians could have maintained their hold upon the ridge. Moreover, ten battalions, half of Micheler's and the whole of Bastoul's Brigades, still available, would have been an unnecessarily large force to have retained on the heights in order to support the troops holding the Rotherberg ; a regiment, at least, might have been set free to reinforce the flank attack.

From the position of Doens' Brigade at 2.45, the time of Laveaucoupet's counter attack, to the foot of the Winterberg by St. Arnual, is about two-and-a-half miles. The troops ought to have been in readiness to commence the attack at 3.45, and at that hour the Prussian force on the heights consisted only of two battalions of the 48th and a single battery; other troops were approaching, but the ridge was difficult of access, except by the two roads, and exceedingly inconvenient for manœuvre.

The other alternative was a direct frontal attack on the Winterberg, avoiding the great extension of front necessitated by a turning movement on the far side of the St. Arnual Pond, and this, if undertaken by the twelve battalions available, would have been equally promising of result, although the immediate loss might have been greater. The chief dangers to be guarded against were the cavalry in the Ehrenthal (7 squadrons), and the guns upon the Galgenberg. But the latter is only 2,500 paces from the Spicheren Knoll; and, had the battery posted at the foot of the knoll, facing the clearing between the Gifert and Pfaffen Woods, been brought up to the crest, it would have enfiladed the Prussian guns, had they faced eastward to strike the flank of the attack against the Winterberg. It would itself have been exposed to oblique fire from the battery above Drathzug, but the guns which had already been driven from the Rotherberg, and those which accompanied Bastoul's Brigade, might have been well used on the western edge of the heights to draw on themselves, or at least to distract, the fire of the Prussian battery. Either operation would have been facilitated had the whole of Bataille's guns and a portion of the reserve artillery been ordered to the heights. Whilst we can quite understand that Frossard's pre-occupation for his line of retreat, threatened as it was from Volklingen, induced him to take careful measures for the security of his left, it is not so easy to see why more artillery was not sent to the right wing. There was scarcely room in the main-line for more guns than were already present, but that artillery could descend the slopes and act in the St. Arnual Valley, had been shown on August 2nd.

The counter-strokes of the French were frequent through-

out the battle. That which drove the First Battalion of the 39th from the Gifert Wood, that by Jolivet's Brigade at 4 o'clock which re-won the Stiring Copse, and that carried out by the battalions of the 55th, 67th, and 8th, at 6 o'clock, were more or less successful. The first and third, which were the more decisive, were made by fresh troops, as all strong counter-strokes should be, and the two last were prepared and followed up by the artillery.

But on the other hand, there were many, on a somewhat smaller scale, which, although well-timed as, for instance, the attack of the part of the 40th and 63rd on the stormers of the horse-shoe trench directly after its capture, and the re-taking of the south-west corner of the Gifert Wood after 6 o'clock, in the majority of cases were useless, sapping the vigour that should have been used for a more general offensive.

Of this sort were the many isolated efforts to re-take the Gifert and Pfaffen Woods. It is true that the enemy was thereby harassed, and prevented from reforming his disordered line; but the work might well have been left to the artillery.

If well-timed, the counter-stroke delivered by a small body, may be of the utmost value. When a portion of the assailing force advances without securing its flanks, when artillery exposes itself without support, or when an integral part of the defence is surprised, as was the Rotherberg, an immediate counter-stroke is perfectly justifiable, and should be undertaken by any body of troops that is favourably placed to do so. But a blind isolated frontal attack on a far stronger force holding a formidable position, is but waste of life and strength.

Of the counter-stroke which was directed against the homesteads from Stiring Wendel, simultaneously with the advance of the 55th and 67th on the Stiring Copse, we have no details. It appears to have been accompanied by cavalry, uselessly enough, but not to have been prepared by artillery. The presence of the latter, in an attack upon substantial buildings, was most essential, and there were several batteries in close proximity. Here, again, there was no adequate arrangement, no combination of the different arms.

Analysing these various operations, we find that those alone were decisive, although only in their immediate effect—which were made in strength. As for any other attack, troops must be massed, and provided with a second line and reserve, if any permanent result is to be hoped for.

It is also noticeable that the French stood artillery fire badly. The columns which attempted to advance over the Rotherberg saddle to re-take the trench, and those which descended the ravine to the westward against the homesteads, were several times driven back in confusion by the guns alone. This may be explained, first, by the fact that the formations of the attacking troops offered an excellent target, and secondly, to want of discipline. German writers, in comparing the different conduct of their own infantry and of the French when exposed to shell fire, are unanimous in attributing the steadiness of the former under such circumstances to their superior discipline. It was apparently more than the French were capable, either of standing their ground or advancing when men were falling fast around them, without replying in the one case, or, in the other, breaking to seek cover.

That such is a characteristic of troops who have no deep instinct of subordination and obedience may be inferred from the earlier battles of the Secession War, where the same phenomena were the general rule. The American soldiers, until the time came when the ranks were filled with the veterans of many battles, lacked those qualities which carried the Fusiliers of the 74th from the Ehrental to the Rotherberg, without a shot being fired and with unwavering ranks, under a storm of shell and bullets from the summit of the spur. In this, as in other respects, the presence of the reserve-men, some of whom had forgotten military habit, whilst others had never acquired them, had doubtless a prejudicial effect on the bearing of the French battalions. The effect of artillery fire on troops, who although ill-disciplined cannot be set down as wanting in pluck or stubbornness, is well worth notice.

Von Kamecke's mistake in attacking without reconnaissance, and its harmful consequences, have already been discussed. His precipitate attack on an extended front

prevented those who afterwards assumed the command from using the reinforcements which came up in any other manner than that of "dribbling" them into the fight, and made a strong and sustained assault on a single point impossible. It was only, moreover, the tactical capacity and initiative of the battalion leaders, that provided the support which saved the troops in the Stiring Copse from defeat at 2.30. Von Kamecke had ordered Von Woyna's whole brigade to pass through the front and strike the French rear. Had his instructions been implicitly obeyed, III/39 would have been overwhelmed, and the centre broken. Otherwise his tactics were commendable. It is true that the front of the 14th Division was too much extended, but believing as he did that only 7,000 French infantry and a few guns were opposed to him, and these only a rear-guard, his idea of throwing the weight of his attack on the French line of retreat was sound enough.

But it is no justification of his conduct in attacking at 12 o'clock to say that it led to victory. Nor can the Battle of Spicheren be held out otherwise than as a warning to the leaders of advanced guards and of detached bodies of troops. Within three hours after the attack began, the 14th Division was only saved by Frossard's incapacity from suffering defeat; and moreover, although that opportunity was allowed to slip, had the leaders of Bazaine's Divisions acted in accordance with the first principles of war, the troops who hurried to Von Kamecke's assistance would in all probability have been heavily repulsed.

It is idle to speculate on the results of such a contingency but they could scarcely have been favourable for Germany. Von Kamecke's rashness gave the French an opportunity of balancing the defeats of Weissenburg and Woerth, of strengthening the morale of their men, of creating amongst them confidence in their leaders and themselves, and in checking the extraordinary boldness which characterised both the strategy and tactics of their adversaries.

At the end of the battle, 29 squadrons of cavalry were on the ground; but as the night was dark and the country unfavourable, it was thought inadvisable to send large bodies of horsemen in pursuit of an enemy retiring in good order.

No attempt was made by the cavalry division to hang on the skirts of the enemy and to ascertain the direction of his retreat. The eccentric movement on Saarguemund doubtless made it difficult to pick up the traces, and it was probably believed in the German camp that Bataille's force, which remained during the night at Etzling, was the rear-guard of the whole army.

Nor was the infantry, had light permitted, in any condition to pursue. Tactical order had been lost in almost every quarter, and it would have been impossible to transmit orders, to rally the battalions, to distribute ammunition, or to exercise definite command, under several hours.

In an infantry attack which meets with stubborn resistance, confusion is inevitable. This experience is no new one. At the Alma and at Gettysburg, in the days of close order, units became intermingled as they did at Woerth and Spicheren. No matter what the formation or the nature of the ground may be, an advance under fire is destructive, to a greater or less degree, of unity and organization.

But an attack often divides itself into more than one phase. The battle does not always end in the capture of the position immediately in front. When, at 6 o'clock, the Prussians left wing had won the crest of the Spicheren Heights, the French fell back to the Forbacherberg and the adjoining ridges; and a stronger second line, and a still more difficult enterprise, confronted the stormers of the Gifert Forest and the Rotherberg.

Seven battalions were available at that hour as second line and reserve, and these were immediately employed against the enemy's left flank upon the plateau.

Two hours later, the French infantry and artillery, having covered the retreat of Bataille's and Vergé's Divisions from the valley to the heights, abandoned the Forbacherberg.

The withdrawal, although perhaps accelerated by the loss of the Spicheren Wood, was made in obedience to Frossard's order for a general retreat, and not in consequence of the flank attack. This movement then, was but partially successful; and for this reason, because it was an isolated attack, unsupported by even a demonstration from the border of the Gifert.

Again, when a first position has been carried, it is always possible that the assailant's second line and reserve may already be employed elsewhere. If, under such circumstances, it is necessary to oust the enemy from his new stronghold, and a turning movement be the most effectual means of so doing, the detachment for this purpose will have to be furnished by the first line, and the force remaining in front will have to support the movement by at least a feigned attack.

But with a confused mob of men, such as were the Prussians on the Spicheren Heights, an immediate attempt either to carry a second position, to pursue a retreating foe, or even to demonstrate against his front, is absolutely impossible. In the first place, orders can not be readily communicated to troops in such a state of disorganization. Secondly, each new phase of the attack must be carefully prepared and systematically carried out; and to do this, tactical unity must be first restored. But to evolve order out of such wild disorder as existed from the Rotherberg to the Pfaffen Wood is the work of hours; and the army that finds its ranks in the same state of confusion must perforce acknowledge that it can do no more.

The necessity for a series of attacks on a series of positions will often arise in war; and we may fairly ask whether an army after a first success is to tamely relinquish the contest, and to leave the enemy the hours of the night in which to bring up reinforcements and ammunition, to construct entrenchments, and to relieve his exhausted troops?

Is it to allow him to withdraw unmolested, and to confess that the troops, who have captured his main position, are incapable of even a demonstration against his second line? To do so is to despair of bringing a battle to a decisive conclusion. To reap the fruits of victory, the enemy must be driven from position to position; the attack must be pressed with such energy as to allow him no breathing space in which to rally his battalions, to man his entrenchments, or to recover his *moral*. No matter how great the exhaustion of the victorious troops, the defeated will be in a far worse plight, and on this action must be based.

The preservation then of tactical unity throughout an at-

tack, in such measure that, within a few minutes of successful assault, every battalion shall have assembled its remaining files, and have resumed a condition of mobility, is necessary for decisive victory. The fighting line must be capable, immediately after storming a position, of re-forming its second line and reserve, and of re-establishing that unity which alone enables a general to make his orders known with rapidity, or have them executed with precision.

Now, although bound to recognise that confusion is inevitable, we are by no means bound to admit that it is so to the same degree as in the great battles of 1870. It is impossible to prevent it altogether, but it does not follow that it may not be minimised so far as to enable order to be readily restored; and by examining the conditions under which the Prussian infantry attacked, we may get some idea how this may best be done.

1. Generally speaking, so soon as the enemy's fire began to be felt, in some cases even earlier, the whole battalion deployed into line of company columns, each captain assuming control of his own supports and reserves; and whether in close or open country, the battalion commander very soon found that, owing to the difficulty of transmitting orders, the companies had slipped from his hands, and that his supervision was limited to that portion of his force which he accompanied. The company commanders, therefore, at an early stage of the attack, found themselves absolutely independent, with nothing more to hope for from their own battalion. No central body remained to draw the companies together; and it was therefore but natural that each leader should pursue his own course in advance or retreat, and thus lose touch of the remainder.

We may notice that those battalions which postponed their deployment until they came to closer quarters, as did F/74 in the first advance against the Rotherberg, those of L'Estocq's brigade when they attacked the Spicheren Wood, and I and F/48 on the extreme left, were able to preserve their cohesion throughout. We may therefore conclude that deployment should be delayed as long as possible, and when in brigade, even if he has to thrust the whole of his second line into the combat, that the battalion commander should

take care to retain a small portion in rear of the centre as a rallying point, serving the same purpose as did the colours in the days of close order, linking the whole together, and forming a nucleus from which the company commanders will hesitate to cut themselves adrift.

2. The Prussian formation in line of company columns provided for the full development of fire, and in 1866 had had the most extraordinary success against an infantry which could make no effective reply to the needle-gun; but in 1870, against an enemy armed with a superior weapon, its results were very far from being so decisive. The company columns managed to push back the French lines, but they did no more; they persuaded the enemy to give ground, but they did not annihilate him; and annihilation is the end at which the attack should aim.

There were two causes which prevented the Prussian attack being pressed with decisive vigour. The first,—that the importance of tactical order and the maintenance of cohesion had been somewhat overlooked since the comparatively easy victories of 1866; the second,—that the remarkable effect of fire in the Austrian war had led men to forget that of a bayonet charge, *made by troops whose tactical unity is still intact, and bringing about the insertion of an ordered body of rifles into the midst of the enemy's line*, is essential to decisive success. The same two causes the neglect of the principle of unity, and the secondary importance attached to the advance of a second line in compact order, contributed very largely to the confusion which invariably existed after an assault.

Fascinating as it may be from a captain's point of view, it may be doubted whether the size of the Prussian company was not in itself a strong temptation to independent action; and it may, moreover, be questioned whether the fact that the captain's command was strong enough to supply a firing line, a support, and a reserve, did not tend very greatly to dislocation and dispersion. We may be permitted also to believe that the extensive authority allowed to the company chiefs in quarters, despite its numerous advantages, was not altogether an unmixed blessing, and that our own system of smaller companies, of the more limited independence, and, at the same time, almost equal responsibility, of the company

commanders, is better calculated to preserve unity and cohesion. And, as regards the strength of the company, it is open to question whether 100 rifles are not more easily handled by one man than 240; whether they are not, as a body, more flexible, more readily re-formed, more easily covered, and more adaptable to detached duties, such as covering the flanks, outposts and the like.

Captain Seton, it may be added, considered that the mode of advance by columns in first line, rendered the companies "more liable to disorder when passing over high ground or "through thick cover, than an English battalion advancing "by fours from the flanks of companies." We may also note that he recognised in the majors of an English battalion a means whereby the commanding officer is free to "use his "discretion whether to lead the battalion as an entire unit, "or to divide it according to the number of field officers "available."

To sacrifice initiative to cohesion and to trammel the independence of the leaders of the firing line, as will be hereafter shown, would be to forego victory; still, whilst prepared to act on his own judgment, there must be none the less a determination on the part of every officer to maintain the touch with his battalion as long as possible, and to restore it at every available opportunity.

Where all ranks have been taught the importance of cohesion, understand that it must never be abandoned except for some very strong reason, and make every effort to regain it when the necessity for dislocation has passed away; where the men are accustomed, when their own immediate leader has fallen, to seek out and to attach themselves to another, much will have been done to check straggling and disorder, for the men will find themselves, however often they may change their commanders, still forming part of groups which are all, through their leaders, actuated by the same impulse of gravitation towards a common centre.

It will sometimes happen, as already observed, that both the second and third line may have been employed elsewhere, or *that battalion may have been piled upon battalion in order to carry or to hold against counter-attack the enemy's first position*, and that nevertheless further efforts, either by way of demonstration, of a flank, or even of a direct attack,

may be demanded from the firing line. Only the most strenuous efforts on the part of the officers and group leaders to keep their men in hand and in touch with their comrades, and constant practice in rallying speedily under such conditions, will enable the battalions to re-form readily. The greater the familiarity of all ranks with such situations—and such familiarity may be easily acquired where the battle exercises of the troops are made the close representation of war—the more rapidly will order be restored.

Again: if after the assault has been prepared by the first line, *the position is carried by a body of troops in compact order*, there will be little difficulty or delay in assuming a new formation, either to beat back a counter-stroke or to prosecute a fresh attack.

As to the question of the charge of a second line, it is true that Von Boguslawski, perhaps the best representative of the general current of Prussian opinion after 1870, tells us that “as the absolute impossibility of bringing troops in “close order into the front line, so much practised on the “parade-ground, was apparent to our generals, it was never “attempted on the offensive.” But the storming of the Golden Bremm and Baraque Mouton by the two half-battalion columns of F/77 is a remarkable instance of a successful charge in close order made by the second line; the advance of F/74 from the Drill-ground Hill to the foot of the Rotherberg was made for the most part in close order, under heavy fire, and over open ground, and yet the battalion was able to scale the heights and carry the horse-shoe trench; nor were the columns of the 55th and 67th checked in their rush upon the border of the Stiring Copse.

It is doubtless true, as a rule, that troops in close order cannot be brought up to the front without many casualties; but if troops are thoroughly disciplined, if they know what is expected of them, if they believe that no matter how great the slaughter, to give ground or to break the ranks is to incur dishonour, if they are imbued with the idea that annihilation is preferable to retreat, and are skilfully commanded, the bayonets of the second line will yet decide many a field.

Those who argue that, when they have lost one-third of their number, troops will give way to their own volition,

and who base their theories on this, are bad teachers. If such is the fact, then there is something wanting in the discipline or mettle of the men. How many instances may be gathered from our own history and from that of our kindred beyond the Atlantic, of soldiers that bore a far heavier loss than this and never flinched? What was the strength of the Fusilier brigade when the great French column at length went reeling down the hill of Albuera? How many of Pickett's men had fallen when his division reached the crest at Gettysburg? We should train our troops for battle not by complacently telling them that there are limits to their endurance, but by impressing on them that human virtue is equal to the human calamity, that what men of the same race have done they can do also; and, whilst weighing the experience of others, by recalling our own traditions. Then, amidst the slaughter of a modern battlefield, the endurance of Waterloo and Inkerman, the reckless valour of Badajos and Balaclava will again assert themselves.

The startling effect of the appearance of a body of troops with ordered ranks was proved over and over again in the war of 1870, and Spicheren is not without an instance. The sight of Bataille's fresh battalions, while they were yet far distant, brought about the retreat of the Prussian 74th from Stiring Wendel; and if, when the enemy has been exposed to a heavy fire, a closed body can be brought up to the front, the very aspect of the line of bayonets and the advance of a force, strong with the strength of unity and order, will often bring about his retreat.

At the same time something more than courage and discipline is demanded for such an operation. Unnecessary loss is to be avoided, and as many men as possible must be present at the decisive moment. Only the most constant practice over broken country, and the most careful instruction will give officers the necessary skill in turning the accidents of ground to the best account. Formations cannot be stereotyped. Ground has an all important influence on tactical procedure, and formations must vary with the natural accidents of the field of battle, as well as with the morale and armament of the enemy.

If the ground be open, and cover wanting, it may be

necessary to make the advance of the second line with the companies or even half-companies at deploying intervals, to relinquish the direction of such detachments to their own leaders, leaving them free to change formation as the ground varies, demanding from them only absolute subordination as to the end in view, *i.e.*, the simultaneous arrival of their commands in rear of the skirmishers and the simultaneous advance of a number of unbroken units in one strong, solid line. In a close country, or where the ground affords much shelter, it will be possible for the leader to keep the units in his own hand, and to avoid the mischances which will inevitably attend the independent advance of several small bodies at wide intervals.

The experience of the Soudan campaigns, moreover, enlightens us as to the extraordinary strength of a force that is determined to push the charge home. And this strength will be felt more especially in a close-wooded country, where troops are able to approach their enemy unobserved. In such a country, men who are sufficiently disciplined to abandon the rifle for the bayonet at the word of their officers, will possess a very great advantage. Had the defenders of the woods round Spichenen and Stiring Wendel been the resolute warriors of Tofrek, what would have been the fate of the long, straggling, and confused lines of the Prussian infantry?

It is perhaps a fault of the present day that it is sometimes forgotten that close order is as important a part of the mechanism of the attack as skirmishing; that the second line is often the deciding factor of the fight, and that the advance of this line depends on the expertness of the officer in handling his men, and on the ability of the men to exchange one formation for another. Extended order produces straggling and the intermixture of units. Close order obviates these evils. The first, then, necessary as it is to avoid heavy loss during the first stage of an attack, to render possible a rapid advance from cover to cover, and to give each man latitude for the use of his rifle, should never be resorted to except under compulsion; the second should be maintained as long as possible without incurring useless loss, and restored at every available opportunity. Straggling was the curse of the Prussian Army in 1870. Many a time

when we read that a force on reaching a position found itself wanting a number of bayonets, which neither the struggle it had passed through nor the death-roll of the battalions by no means accounts for, we are tempted to ask, where were the rest? And officers, who served in the great war, have not hesitated to confess that so innumerable were the opportunities for escape offered by the skirmishing fight, that it was only the braver spirits that disdained to profit by them. This was more especially the case when the fighting took place as at Spicheren, in wooded country. "A wood" says a recent German pamphlet, "resembles a filter, a great deal goes in, but very little trickles out." Allowing therefore that the advance of the second line will be attended by heavy losses, the latter will be more than balanced by the absence of stragglers and the maintenance of tactical cohesion.

3. The Prussian battalions and even companies, at Spicheren, owing to the attack of the 14th division on too wide a front, were thrown haphazard into the fight and were often called upon to fill a gap which demanded the presence of every available rifle in the firing line, thus leaving it to other organizations to furnish the second line. We gather then that attacks made without very careful preliminary dispositions, without giving each division, brigade, and battalion, a front adequate to its strength and no more, are greatly conducive to disorder.

Our own offensive tactics are based on the principle that every attacking force should be disposed in not less than three lines. This was the normal formation of the Peninsula battles; its employment at the Alma, rather because it was traditional than for any other reason, snatched victory out of the confusion on the heights; and in the Secession War, more than one famous charge owed its success to the inherent strength of this system of attack. One of the chief advantages of this principle being embodied in official regulations, is that it becomes so firmly established as the first step in offensive action, that, as happened at the Alma, it is carried out almost instinctively. As the battle comes into view, during the excitement that reigns during the first rush of shells and bullets, habit

asserts itself and acts ; and so, when the commander comes to take stock of the situation and to improvise his plan, or even when, as at the Alma, he simply orders the whole to advance, he finds his troops drawn up in a formation suitable to every emergency, minimising confusion, susceptible of modification, and promising sustained energy. Whatever happens, the framework of his battle, as Von Moltke has called it, is the best that can be devised. The first step has been already taken in the right direction, and in war, as elsewhere, it is this that tells. Not only at Spicheren, but throughout the campaign, the Prussians seem to have set this principle aside. In the peace manoeuvres, over-prominence had been given to the use of extended lines ; attacks were seldom made in mass ; the formation in three lines was not demanded as an essential ; its advantages were not drilled into them ; and, as a general rule, they were disregarded. To this fact we may fairly attribute the precipitate rush into action, the confusion that followed, and, more than all, the almost invariable failure of the frontal attack. It may be remembered that the general who commanded one of the Guard Brigades in the disastrous attempt to storm St. Privat, stated, in his official report of the battle, that when the assault came to a stand within 400-600 yards of the enemy's line, the French already showed a disposition to retreat, and that he then felt that had support been forthcoming, the position might have been stormed without waiting for the turning movement to develope.

This incident, brought into special prominence by the terrible losses of the assailants, is still one of the strongest of stock arguments against the frontal attack. But the Guard advanced in line of columns and in two lines only, it was outnumbered by at least two to one, and the village of St. Privat, the key of the position, was as yet untouched by a single shell. Give these circumstances their full weight, add the abnormal difficulties of approach, and it will at least be open to doubt whether they, rather than the intrinsic strength of the defence as compared with the attack, were not the true causes of the failure. So far as history goes, some exceedingly good reason is invariably to be found for the non-success of frontal attacks in line. Either they were not

made in sufficient strength, the lines were too far apart, there was no third line, or the preparation by fire was omitted. There are very few instances, on the other hand, where these conditions were fulfilled, that victory did not follow.

We may be permitted, then, to hold the opinion that too much stress has been laid on the impossibility of the frontal attack against a position defended with breech-loaders. Nor is it a wholesome doctrine, for, as the tendency of modern tactics is to envelope, we may be sure that in the warfare of the future the defender will devote far more attention to securing his flanks than did the French in 1870, and, if the assailant wishes to win the battle out of hand, he will be compelled to make his main effort directly in face of the hostile line. The same rule will hold good of the counter-stroke.

There can be no question that the frontal and flank attack combined is the most effective form of offensive tactics. But where such a proceeding is impracticable, there is no need to abandon all hopes of success. By skilful manœuvring the adversary may be induced to weaken one point in order to reinforce another; a defensive position can seldom be everywhere strong; and, if successful, the frontal attack effects a saving of time and is more likely to be decisive.

Gravelotte would have been a more complete victory had the Guard carried St. Privat at 6 o'clock. At 7.30, darkness was fast settling on the field, and want of light, as much as the confusion that existed in the village, prevented any vigorous attempt to sweep down the ridge from left to right and roll the enemy back on the Moselle.

It may be remarked that late improvements in artillery, in accuracy, projectiles, and killing power, are all on the side of the offensive; and also, that the introduction of rifled howitzers, from which no bomb-proof is secure, and which need not be withdrawn from action until the assailant has approached within point-blank rifle range of the parapet, will, by facilitating the frontal attack, and thus making it more frequent, render the question of how it is to be carried out one of the utmost importance. Fortunately, there is no need to refer further than to the drill book of 1889, to learn not only the principles to be observed and the appropriate dis-

tribution of the infantry, but also the manner in which the three arms may be most effectually combined both to achieve and to improve success.

4. The rôle of the first line is to shatter the enemy's power of resistance, and this is done either by obtaining a superiority of fire, not necessarily along the whole front, but at some particular point, and not necessarily by opposing him with a larger number of rifles, but by striking him in flank or obliquely, or by surprising him by a sudden fire at short range. When the zone of heavy loss is reached the command of the firing line must be surrendered to the company and section leaders, and the task of obtaining superiority of fire is imposed on them. To accomplish this, their leaders must be self-reliant, accustomed to act on their own initiative, carefully trained to make use of ground, and quick to recognise the weak points of the enemy's line. Moreover, if the discipline of the men is such that when their immediate leaders have fallen they at once attach themselves to the nearest officer, officers who find a favourable opportunity will have the men wherewith to seize it, and all the rifles available will be employed to the best advantage.

"A skirmishing line," says Lord Wolseley, "formed here "and there by a few files only, at other points where a dip "in the ground affords shelter, by several companies, taking "advantage of every little inequality of surface in front to "push on nearer and nearer to the enemy's position, will "soon find some chink in the enemy's armour, some weak "point from which he will recede, and thus enable you, by "working in there, to take the stronger points in flank."

Such are the principles that should guide the action of the firing line, whether it is employed but to prepare the way for the bayonets of the second line, or whether, as with the Prussians in 1870, it is regarded as the decisive factor in the infantry fight. It was on these principles that the Prussian battalions acted; it was to them that they owed their success. The officers were trained to responsibility, skilful in detecting and using opportunity, and the men were sufficiently disciplined, generally speaking, to follow without hesitation.

The presence and initiative of a large number of well-

trained leaders along the whole front, together with the habit which had been instilled into the men of obeying strange officers as they would their own, gave extraordinary energy, strength, and elasticity to their attack. The company and section leaders, abandoned, when the heavy firing made the transmission of the battalion leader's orders impossible, to their own resources, knew that the successful issue of the fight depended on their skill and resolution. When some new phase of battle opened, or unforeseen obstacle intervened, they never looked behind or hesitated, but lent all their energies to overcoming the unexpected difficulties. When an opening appeared, a company, a section, or even a handful of men, led perhaps by a subaltern or sergeant, dashed in without hesitation; no time was lost in asking for permission or waiting for orders, and even the cohesion of the command, was, in case of necessity, for the time being neglected. Thus the strength of the adversary's line was tested at every point, and although the tactical units, that is the companies, were weak, so thoroughly was the system of mutual support applied, that where a point was seized sufficient strength was generally forthcoming to retain it.

In the French attack, on the other hand, the influence of the subordinate leaders was not apparent, and the action of the firing line was rather a dead pressure against the adversary's front than a resolute search for his weak points. Either the effect of small bodies acting against the adversary's flanks was not appreciated, or a want of energy, owing to the repression of individual initiative, on the part of the officers, prevented such tactics being employed.

But at the same time it must be observed that owing to the retention of the battalion as the tactical unit, the French appear to have preserved their cohesion better than did the Prussians. Had the disorder in Frossard's ranks been as great as that which existed on the crest of the plateau or in the woods round Stiring Wendel, it would have been impossible either to have drawn back Laveaucoupet's Division to the Forbacherberg and Spichenen Ridge in the "fairly good order" with which the Staff History admits the movement was carried out, or to have transferred the whole of Vergé's and Bataille's troops, artillery, infantry, and cavalry, from the

narrow streets of Stiring Wendel to the heights above, within three hours of darkness.

Both systems, therefore, had their strong and weak points, and it is evident that a continuation of the elasticity of the Prussians with the cohesion of the French attack, would give better results than either. How these two conflicting elements, individual initiative and the unity of the mass, are to be reconciled, is a question well worth the serious consideration of every soldier.

The sub-division of the section into groups multiplies the number of trained leaders along the front, and whilst it ensures the most energetic search for the enemy's weak points, keeps the men better in hand, giving them a larger number of rallying points, and providing a constant gravitation towards the centre of the tactical unit. These leaders must gain their experience in battle exercises, and it is by this method of practical instruction that they will learn to exercise independent judgment and at the same time in what manner cohesion may be best maintained. It is necessary also that every officer should understand the conditions of battle, and recognise that when once the firing line has reached the zone of heavy fire the further guidance of the men who compose it must be left entirely to the company commanders, and when their influence is unable to make itself felt, to the officers and non-commissioned officers in charge of sections or groups. *The devolution of responsibility*, at each successive stage of the advance, is one of the first requirements of modern fighting.

In bringing up the second line in good order, in selecting the most favourable point for assault, in initiating or beating back a flank attack, and in the judicious occupation of a captured position, the officer in command of the force, whether it be a battalion or a brigade, has enough upon his hands. If his second and third lines are unavoidably drawn into the firing line, in such case his functions are for the time being in abeyance, and only by example can he influence his troops.

Lastly, both officers and men must be so trained that obedience to orders becomes absolutely mechanical, for only the obedience that has crystallized into deep-rooted instinct is to be relied upon in the stress of modern battle. But

when orders are not forthcoming, or when affairs have developed in such an unexpected manner as to make them inapplicable, then individual initiative must be called upon to play its part. It is doubtless difficult to combine two such opposite characteristics, but it is not impossible. Did not the soldiers of Wellington's Light Division unite with that steadiness in line which has never been surpassed, the intelligence, and the self-reliance, which made them skirmishers as skilful as the famous Voltigeurs of France?

The Battle of Spicheren is a notable example of wood-fighting, and it will be worth while devoting some attention to the manner in which the existence of the woods in front and on either flank of the French position affected the progress and issue of the action.

Both flanks of the French rested on woods dense enough to make the combined action and effective co-operation of several battalions a matter of great difficulty, but by no means impenetrable, and affording the assailant an opportunity of approaching close to the flanks of the position unobserved. The possibility that the Germans would take advantage of this opportunity was not without effect on the minds of the French commander and his divisional generals. The great Saarbrücken Forest, extending round Stiring Wendel, and bordering the line of retreat to Forbach and beyond, was an incubus from which they could not free themselves. This absolute ignorance of what was going on within its coverts, the apprehension that the force, which the imagination of the spies had conjured up at Saarlouis, might be there concealed,—an apprehension confirmed by the resolute attack of the Prussian battalions that lined the border of the wood,—appears to have held back the far superior force which garrisoned Stiring Wendel from a general counter-stroke. Moreover, reading between the lines of Frossard's report, there is reason to suspect that, on the opposite flank, the movement of the two battalions of the 48th through the Pfaffen Wood had a share in bringing about the withdrawal of Laveaucoupet's Division from the Gifert.

We have here, then, an instance of the moral effect produced on the attitude of the defenders when the ground on the flanks cannot be observed, and when they have no know-

ledge whether the enemy is in occupation of such ground or not.

That neither Frossard nor his subordinates took any precautions to secure this knowledge we have already observed, and it is needless to make further comment; but it is worth while noting the very valuable assistance that a force of mounted infantry would have rendered in reconnoitring the forest-tracks, and readers who are interested in the duties of this arm of the service, are recommended to study the methods of the American generals and the American horsemen in the Virginian Wilderness. Neither Lee nor Grant, although the country in which their campaigns were carried on was far more extensively wooded than the borders of France and Germany, were troubled by the apprehensions which beset the French commanders, but they were both careful to secure early information of the enemy's movements, and were both well served by the officers who led their cavalry.

Far and wide, to front and flanks, rode Stuart's and Sheridan's mounted marksmen, obstructing the path of the enemy's patrols, laying ambushes for his advanced guards, contesting every inch of ground, and penetrating his lines, for in such a country it was impossible to watch every path. More skilled as foot than cavalry they did not hesitate to engage the infantry; and even when in inferior force, their superior mobility rendered them capable of taking up position after position, and by a series of rear-guard actions, of delaying the advance of the enemy's main body or the approach of his flank attacks.

A single battalion of such troops; had it been pushed forward on the French left towards Volklingen and Gersweiler, would probably have checked the advanced guard of the 13th Prussian Division long enough to have prevented the decisive movement on the Kaninchenberg. Throughout the war, the helplessness of the Prussian cavalry screen against even a small force of infantry was remarkable, and it has already been recorded that the 5th Dragoons from Pirmasens, at a time when it was of the utmost importance to obtain information of the French movements on the Saarguemund-Bitsche Road, was accompanied by riflemen in carts.

We may therefore, from these considerations, draw three

deductions; first, that if possible the flanks of a position should embrace an extensive view; secondly, that where this is impossible, the ground beyond should be thoroughly reconnoitred; thirdly, that the force entrusted with this duty should be capable of offering effective resistance.

But both fighting and movement in a thickly wooded country are difficult, and troops should be carefully trained in these operations whenever such country is available. And it is not sufficient that such training should be applied to small bodies alone. To ensure the combination and co-operation of several tactical units is the chief difficulty; and without practical experience in the means of overcoming it, the disjointed advance of the 28th Brigade through the Saarbrücken Forest, and the isolated and ineffective attacks of the various battalions which composed it, will find its counterpart.

It may be added that since the war of 1870—1, the Germans have incessantly practised their troops in fighting in and advancing, in battle order, through dense woods, and it is interesting to notice the tactical details which have been accepted as generally essential to such operations. Deployment is postponed as long as possible, and all supporting bodies are retained in close order on the roads or paths; every opportunity of a clearing or otherwise is used to re-form the ranks; and, when the further end of the wood is reached, the first thing to be done is to restore tactical order; until this has been effected, no further advance is permitted.

German writers have not hesitated to attribute the successes of the army during this campaign in part to the superior shooting, accurate and careful, of their infantry. That this had much to do with the result of their battles would not be discovered from the relation of the incidents thereof, but we must accept the evidence of men who were eyewitnesses of the engagements and were able to judge from personal experience.

It must be remembered that at Spicheren the greater part of the fighting took place in thick woods, and here the struggle unavoidably developed into a series of trials of skill between more or less isolated groups of rifle-men; and in these circumstances, good shooting, the tactical abilities

of subordinate leaders, and the training of the individual soldier in working in combination with his comrades, had their full effect. There is little wonder that the German infantry-man, trained to accurate and careful aiming at short ranges, and accustomed, when on the defensive, never to open fire except by word of command, should prove the better marksman. Habit is everything in battle.

As now understood, there was little fire discipline on either side, no idea of concentrating the fire of groups or sections on carefully selected objectives. The fire once opened, the men shot at will; and amongst the French it appears to have been considered that the duty of the infantry soldier when skirmishing, or on the defensive, was to shoot and to shoot always, covering the ground with a hail of bullets, regardless of where they fell so long as they fell in the direction of the enemy. The advance of F/74 across the open valley to the foot of the Rotherberg was a splendid opportunity for demonstrating the power of the Chassepôt, but the fire of the 10th Chasseur battalion and 3rd Company of Engineers failed to arrest the movement. There was no other opportunity of bringing long-range fire to bear; and we may take away this lesson from Spicheren that, in a wooded and close country, the infantry fighting will be at close ranges; and, also, that long range fire at a moving target, unless, as at St. Privat, it is delivered by such a crowd of rifles as to cover the whole of the terrain with bullets, is of doubtful efficiency. The German system of allowing the attack to arrive within effective range before opening fire is far preferable.

We may note that the author of "The Nation in Arms" states that the French regulars shot well at long ranges, and this is borne out by the histories of the German regiments engaged at St. Privat.

Fire was often opened at a range of 1,500 metres and more, despite both the official regulations and the efforts of the officers, and it is explained that the presence in the ranks of each battalion of 150-250 reserve men, unused to discipline, as well as untrained in the proper tactical use of the rifle, exerted the worst influence, and that their example, their uncontrollable desire to employ the extreme

range of the Chassepôt, ruined the discipline of the rest, took the whole direction of fire out of the officers' hands, and led to want of ammunition when it was most required.

Too much praise cannot be given to the Prussian artillery, and it may be confidently asserted that, more than once, disaster was averted by the bold and adroit disposition of the guns.

The action of artillery may be divided into four episodes.

1. The driving back of the French guns under the Rotherberg.

2. The massing of 18 guns upon the Galgenberg, only 1,300 yards distant from the French trenches.

3. The counter-stroke on Bataille's attack, made by the advance of 36 guns to the Folster Height.

4. The surmounting of the Rotherberg by two batteries.

It will be interesting to note in detail the services rendered by this arm during each of these episodes.

1. The French guns upon the Rotherberg were driven back by oblique fire to a position where they could no longer command the St. Annual Valley below the Gifert and the Pfaffen Woods. A mitrailleuse battery was compelled to withdraw from the heights above the Golden Bremm.

2. The fire from the Rotherberg was silenced, the defenders of the horse-shoe trench demoralized, and the way prepared for the attack of F/74. Hostile columns advancing over the crest of the plateau to the recapture of the spur were several times driven back. The Golden Bremm and the Baraque Mouton were rendered untenable, and the attack of F/77 on this important post materially facilitated. Counter-attacks on these buildings, down the ravine from the south-west, appear more than once to have dissolved under fire of the guns.

3. The advance of Bataille's infantry and artillery down the Forbach Valley was checked, and the attack of the 52nd vigorously supported.

4. The hold of the infantry on the Rotherberg was confirmed, and the French driven from the Spicheren Knoll.

Massed batteries, concentration of fire, great boldness in advancing to the most favourable positions, incessant attention to the support of the infantry, accurate shooting, and much readiness in identifying the relative importance of

objectives, were the characteristics of the Prussian artillery tactics at Spicheren. Nor were guns retained in reserve so long as there was room for their deployment and a target for their fire.

The French artillery, on the other hand, was by no means skilfully employed. It was useless to have left two batteries in Forbach. One, it is true, fired a dozen rounds to cover the retreat of the defenders of the Kaninchenberg, but the other never came into action at all, and it is manifest that, had it been brought up to the Forbacherberg, it would have done good service.

Again, in the Forbach Valley, the batteries came into action by detachments, not *en masse*. They were placed at first within too short a range of the Stiring Copse, and it was a mistake to have sent the whole of the available reserve as well as two of Bataille's batteries to the valley. Until the retreat was decided on, the right wing on the plateau was supported by only four batteries out of a total of fifteen, the left wing in Stiring Wendel by nine. Two of the latter were certainly disabled at an early hour, but it would have been well to have reinforced Lavcaucoupet by a battery from Forbach and a second of Bataille's division. Posted on the Spicheren Ridge they would have made it very difficult for the Prussians, on capturing the Gifert and Pfaffen Woods, to have held the outskirts, and would have done much to assist the last great counter-stroke at 7.45. At the same time it must not be forgotten that the French position was unfavourable to the employment of artillery, and the guns could do little to support the infantry defending the Rotherberg and the Gifert. The mitrailleuses were used as field guns, and consequently without effect. Stiring Wendel and the Spicheren Ridge, where they could not be assailed by hostile artillery, were their proper place.

The advance of the German cavalry up the Rotherberg was a desperate and useless measure, and Rheinbaben's squadrons were prevented by the nature of the ground from taking part in the fight. It may be questioned, however, whether they were sufficiently utilized. Several squadrons were on the ground when the battle began, and although it was impossible to break through the French picquets, it is surprising that no attempt was made to penetrate to the

plateau by the track through the St. Arnual Wood, or by the Simbach Ravine. Again, not until 2.30 was a single patrol sent out to explore the road which runs from St. Arnual Wood to Grossbliederstroff up the valley of the Saar. After that hour, the omission was rectified by General Von Doring, who despatched in this direction a squadron attached to his own, the 9th Infantry Brigade. Outside St. Arnual this force was confronted by a more numerous body of French horsemen, and its further progress checked. Nor was any attempt made to communicate with the 13th Division and to hurry Von Glümer to the field. The Staff History states that an officer's patrol reconnoitred during the battle towards St. Avold, but by what road we are not told. Near Carling it was met by a body of French cavalry and retired by way of Lauterbach.

The difficulty of concentrating cavalry on the field of battle, when an engagement takes place unexpectedly and the front of observation is a wide one, is well illustrated by the fact that, by 5 o'clock, but 10 of the 56 squadrons which composed the 5th and 6th Cavalry Divisions had joined Rheinbaben. By 7, 17 squadrons had assembled, and there were three regiments (12 squadrons) of divisional cavalry also present.

At the same time, it must be remembered that a false alarm from Saarguemund had caused a portion of the 6th Division to concentrate at a point 14 miles distant from Saarbrücken. The 15th Brigade of this division was also employed in observing Saarguemund on the left flank; the 12th Brigade of the 5th Division moved still further to the west, met French infantry at Rohrbach, and was able to report that the hostile camp in Bitsche was gradually increasing. During the day, the 3rd Cavalry Division advanced on Saarlouis, and by means of its patrols, discovered large bodies of French troops in the neighbourhood of St. Avold and Tromborn.

The practice of route-marching had received due attention in the Prussian Army; moreover, the distances covered by the troops in their annual manœuvres generally corresponded with the tasks demanded from them on a campaign. During the forward movement of the First and Second Armies to the Saar this training bore good fruit. Part of the 14th

Division on the 2nd of August traversed 27 miles under a burning sun. The 33rd Regiment of the 15th Division accomplished a march of 69 miles over mountainous country in three days ; and the 5th Division, over unfavourable ground, made marches of over 14 miles on four consecutive days. The advanced guard of the 13th Division, when it came into action against the Kaninchenberg, was more than 20 miles from its bivouac near Lebach, and had not halted to cook ; the 2nd Battalion 53rd Regiment took only 13 hours to cover the $27\frac{1}{2}$ miles from Wadern to the Rotherberg. The 4th Light Battery of the 1st Army Corps had come direct from Königsberg, in Prussia, in the same train, and was to have disembarked at Neunkirchen. In consequence of a report of an action raging to the south of Saarbrücken, the commander at once resolved to continue his journey to St. Johann, and arrived in time to take part in the battle.

It will be well to add the criticism of the German Staff History, that is, of Field Marshal Von Moltke, on the earlier engagements of the campaign :—

“ Changes in the appliances of war, which in these August battles were for the first time manifested in the field on both sides, led also, in a tactical point of view, to many unwonted phenomena.

“ Conspicuous, in the first place in contrast to former times, is a great change in the employment of the German artillery. Placed at the head of the marching columns, it appeared with the foremost on the battle-field preparing the great offensive blows. Fearlessly holding to the position it once took up, it may be said to have formed a solid framework to the order of the battle, whilst the French batteries in general only appeared as an easily transferable force. Favoured by its better matériel the German artillery was able to afford the infantry that support of which it was in need against the superior small arm of the French.

“ In the German leading, the effort was conspicuous in all these battles to employ the artillery at the outset in masses, and afterwards in most intimate connection with the task of the infantry. The increased losses of the

"artillery through musketry fire, however, demand more and more that that arm should be afforded ample protection by throwing forward detachments of infantry.

"But from the nature of things it was not always practicable to push the German infantry so far forward as to afford complete protection to its artillery against an enemy equipped with a long ranging rifle. The advantage to the infantry of being able to shoot at very long distances was therefore proved on many occasions ; but on the other hand it was also apparent, especially in the defensive struggles, in which the infantry were later engaged, that the true effect of the rifle lies at close ranges and that only a well-grounded training confers the degree of certainty of aim, which can foil every frontal attack over open ground.

"The less they were in position to answer the volleys from the Chassepôt at the longest ranges, the more was the attention of German infantry directed, as a matter of course, to a specially careful use of the ground, and the employment of company columns.

"*The self-dependence of the subordinate commanders, so thoroughly inculcated by the peace manœuvres, in conjunction with the well-grounded training of the individual, have asserted themselves with all their advantages. The novelty of the phenomena which were met with certainly caused surprise at first ; but the officers and men very soon knew how to accommodate themselves to the changed requirements, and to understand that it is above all necessary, on the one part, to keep the action under control even under antagonistic circumstances — on the other to use every effort in their power to rejoin with the least possible delay the controlling authority, and their own particular unit. The maxim 'aus der Tiefe zu fechten,' in consequence of the general instinct to close rapidly with the enemy, was but seldom properly carried out, and degenerated mostly to an impatient rush without waiting the arrival and deployment of the supporting troops. So at Spicheren, and Metz, cases were frequently seen of isolated struggles without connexion, and oft-repeated intermingling and dispersion of tactical units.*"

CHAPTER X.

THE TRAINING OF THE TROOPS, AND THEIR TACTICAL LEADING.

In addition to the initial error which marred the Prussian generalship, minor tactical mistakes can be pointed out, as for instance, Major Werner's withdrawal of his six companies from Stiring Wendel without first communicating with superior authority; the attempt of I & II/39 to advance against Spichenen from the Gifert Wood before 3 o'clock, and of several mixed detachments to do the same after the final capture of the southern edge; the evacuation of the Golden Bremm and Baraque Mouton by F/77, in order to join the assault of F/12 on the Spichenen Wood; the futile attempt of the 17th Hussars to act upon the plateau; the attempt to place the whole of the 28th Brigade on the French left flank and rear at 3 o'clock, thus leaving the hotly-engaged troops in the copse without support; the failure of the regimental commanders of this brigade, when, in obedience to the demands of the situation, its dissolution came about, to communicate with the brigadier; and lastly, the impulse of both companies and sections to drift apart and to act as perfectly independent units. Opportunities of escaping from control were eagerly seized, perhaps as promising individual distinction, and officers who had been temporarily detached, as flank guards or otherwise, displayed no impatience to resume connection with their battalion. Alongside great energy, a deep appreciation of the principle that the attack cannot be too strongly pressed, and much initiative, appeared a certain want of caution, a tendency to regard the action immediately in front as a whole, and not as only a part, and to subordinate unity of

action to isolated enterprise and local success. But on the whole, the Prussian officers of every rank displayed great tactical ability.

The nature of the country, the position of the enemy, the circumstances under which the battle had to be conducted, were all unfavourable to the assailant. Nevertheless, even before the advent of the 13th Division, he had achieved a measure of success; and the question must needs force itself on the most careless reader, to what was this result due? It was not to personal courage, for in this quality the combatants were well matched. It was not to greater natural aptitude for war, for what nation can boast of more victories than France? Nor was it to the bad use made by the French of a strong position, for the commander of the 14th German Division replied with an error of even greater magnitude. To none of these, then, was the Prussian success due; but to the superior tactical skill of the officers, and the stronger discipline of the troops. In the employment of the battalions that reinforced the fighting line, in the recognition of important tactical points, and of the weak places in the adversary's line, the Prussians displayed a readiness which the French did not possess. Von Goeben's determination, when the left attack had already been partially defeated, to throw every rifle into the fighting line, and to maintain, at all risks, the grip upon the Rotherberg: the complete change of plan in the assault upon the plateau, and the flank attacks on the *western* slopes of the Spicheren Heights: the rapid shift of L'Estocq's brigade to the Golden Bremm and the Spicheren Wood: the support of the defenders of the Rotherberg by the two batteries: Von Pannwitz's storm of the homesteads: Von François' capture of the horse-shoe trench, and Von Zastrow's brilliant counter-stroke with six and thirty guns to meet the last attack of the French down the Forbach Valley: the self-sacrificing support given to the infantry by the artillery: the self-reliance and cool judgment, which, when the sound of battle was heard, anticipated orders, and brought divisions, brigades, and batteries far on the right road before instructions for their march had been issued by the superior authorities: the readiness with which the principal require-

ment of the situation, *i.e.*, the energetic prosecution of the attack, was seized by officers and men: the unity of purpose which animated the whole mass, although that purpose had in few instances been communicated by the generals: against these there were few bright instances of tactical capacity on the part of the French to be set off, and they are the more conspicuous in being interwoven with so many errors, and accompanied by a general want of energy and combination. It is true that Laveaucoupet's flank attack on the 39th at 3 o'clock, Bataille's counter-stroke on the copse, and Dulac's defence of the Kaninchenberg, were each one of them ably executed, but, as regards the regimental officers, the Prussians showed greater power of initiative and of meeting the needs of the situation than did the French.

There was little reckless and wasteful long range fire; great care was invariably taken to secure the flanks, to collect supports, whenever the inevitable intermingling of battalions took place—indispensable precautions in all fighting. There was no blind obedience of orders given before the situation had fully developed; no waiting for further instructions when matters were critical. On the part of the French, on the other hand, except those already quoted, there were no instances of effective independent action, although there were many opportunities for its exercise.

And in an army whose training was limited to the barrack yard, in which every action was regulated by routine, and where all independence even of thought was stifled and discouraged, where the habit of waiting for orders or, unreasoning obedience, had been fostered at the expense of individual judgment and resolution, it is little wonder that they never occurred. A military life, passed in a mere routine of acting in accordance with minute regulations, and in drill and manœuvre exercises, the precise execution of which as officially laid down was the only aim, tended very powerfully to destroy initiative, and to stunt the capacity for independent resolution.

"If in an army," says the author of "The Nation in Arms," "the habit prevails of only doing what is ordered, its movements are by fits and starts. It experiences an interruption whenever unforeseen circumstances intervene;

"because all concerned await the dispositions of the superior commanders. The disconnected nature of many of the operations executed by the French Army in 1870, can only be explained by the lack of independence in the lower grades."

"Clausewitz declares it a sign of mediocrity to do what one is officially ordered. We call it an insufficient conception of duty."

Now the truth of this theory of the necessity of initiative, long before the era of the breech-loader, so early as 1814, had been recognised by one of the greatest of Prussian leaders, General Gneisenau; and the divergent views which existed then, as they in some degree do still, are well expressed by his colleague Von Muffling, the Prussian Commissioner with the English Army at Waterloo. Both parties appear to have recognised the value in war of not losing time in asking questions; but Gneisenau's opponents, appealing to the precepts of Wellington, declared that the risks of such a mode of action were too great.

Now, in the first place, there was misconception of the views of Wellington. It is true that he had established a rule, "that a general placed in a fixed, pre-arranged position, has unlimited power to act within it, according to his judgment; for instance, he may choose to defend his first line, or to meet the enemy with a counter-attack from a position in the rear; and in both cases he may pursue him, but never further than the obstacle which defines the line assigned to him; in one word, such obstacle until fresh orders, is the limit of his action."

The wisdom of this rule, a most excellent tactical precept, none could deny; but, be it noted, it refers only to the defensive; and at the same time, gives as much latitude to a subordinate commander when on the defensive, as the most strenuous advocate of the theory would be disposed to allow. To decide what the Duke's precepts were as to the initiative of his subordinates when on the offensive, we must look to his practice; and it will be discovered from the history of his battles, that when once his divisions had had their special tasks assigned to them, their leaders were free, so long as they furthered the general plan, to execute them as they thought

best. Nor does it appear that his subordinate generals were expected to lose opportunity rather than act without orders. One of his chief complaints against them was their inability to act upon their own responsibility. This does not imply, however, that the duke would have approved of the precipitate action of some of the German leaders of advanced guards in 1866 and 1870. Far from it. Rash independent action he always censured with special severity.

Gneisenau's ideas, then, and those of the advocates of this theory, have been misunderstood by their opponents. What he enjoined was that when a subordinate commander had an opportunity of furthering the general plan of attack, and when, were time to be lost in waiting or sending for orders, the opportunity might escape, he was to act without delay. Such, too, were the views of Wellington. But when the rifle and the breech-loader came to be employed, it was not at first understood that a deeper zone of fire and a wider front had so increased the difficulties of command, and occasioned so much delay in transmitting orders, that the same latitude which had hitherto been allowed to the leaders of advanced guards and other detachments, must now be granted to the leaders of the fighting line.

In the fighting line, when contact with the enemy is close, and the fire of both sides is fully developed, an officer's command, no matter what his rank, covers only the few files on either side. His orders can reach only a very small number. It follows, then, that as orders cannot be passed, the leaders of the smaller bodies, of companies and sections, must be given a free hand, and be expected to act on their own initiative. If the initiative is in accordance with the general design, the battle will be fought out as the commander designs, and no danger nor loss of opportunity will result from the lack of orders. But the difficulty is the same that was felt by Gneisenau's opponents, how is this intelligent initiative to be secured? Now we have seen in the preceding pages that the Prussians in 1870 had done much in this direction; and if we turn to "The Nation in Arms," we shall see how they had solved the problem.

Speaking of the German Army, and the self-same system obtained in 1870, Von der Goltz writes as follows:—"We

"rigidly adhere to the principle that in the case of an officer who has been guilty of neglect, an excuse to the effect that he has received no orders, is of no avail. Passive obedience is not enough for us; not even the mere fulfilment of what is enjoined, when the occasion has demanded that more should be done."

"It cannot be denied, that independent action may be sometimes inconvenient, by crossing and running counter to the higher views of the commander-in-chief, and by '*faits accomplis*' which cannot be undone, robbing him of his liberty of action. Especially in the higher ranks, therefore, careful consideration must precede such action, because here a part is staked, the fate of which influences the whole; this is not the case when the initiative is taken by leaders of subordinate rank. But nothing would be more erroneous than if, because inconveniences may occur, one were to attempt to curb the general initiative of the army. In order to avoid a mistake being made, a hundred promoting impulses would be blotted out, and an enormous amount of strength lost.

"There is," he continues, "only one means of preventing the ill consequences of the initiative, and that is a uniform training of the intelligence and judgment."

It was this uniform training, then, that enabled the Prussians to add to their armoury this powerful weapon, a general initiative.

Now how was this training given? Assuredly not in the barrack, nor on the drill-ground, nor by the incessant practice of precise manœuvres. These, on the contrary, tend rather to destroy initiative.

Nevertheless, barrack-life and the drill-ground were as much a part of the German officer's life as they were of the French. But they were not the whole. They were but the foundations of his military efficiency; they did not form the whole structure.

Yet even in the barrack and on the drill-ground much was done to foster initiative and independent judgment. Every action of the officer was not regulated by authority. Routine was not universal, but large demands were made on individual intelligence. To the officers, down to the com-

pany and section leaders, the instruction to their men was entirely given over. They were hampered by no exact instructions.

They were allowed to employ their own methods; zeal and the efficiency of the command being the only matters looked to by their superiors; and all interference with their methods, so long as they tended to the desired end, was contrary to the traditions of the service. Under this system, therefore, every officer acquired habits of independent judgment and self-reliance, for he was daily compelled to exercise these qualities.

But it was not to their regimental system alone that the Prussian officers owed their initiative and self-reliance. It was beyond the precincts of the barrack and the parade-ground that they were principally trained to exercise these qualities. Battle-exercises, as we have already noted, both on a large and small scale, were the constant practice of the German troops.

Here the Prussian company and section leaders, especially in the greater manœuvres of large bodies of troops, which, assuming many of the characteristics of modern battle, and conducted over close and broken country, rendered independent action and resolve on the part of the leaders inevitable and constant, already thoroughly instructed theoretically, learnt to exercise initiative and self-reliance, and to apply the lessons they had imbibed from the experience of others, that is, from the study of tactical operations. Here they received a uniform training, and, at the same time, acquired skill in leading troops in action.

Here the lack of acquaintance with actual war was, as far as possible, made good; and officers, whose commanders had grasped the changed conditions of tactics, were taught, while using their own judgment when circumstances required it, to bring their action into adjustment with the general design.

In these exercises, too, the men acquired that battle discipline in which they were so much superior to the French. They became accustomed, in some degree at least, to the confusion and loss of tactical order consequent on the attack of large bodies over broken ground. They learnt, without

waiting for orders, to obey strange officers, to work with other commands, and to feel at home under such circumstances. They became expert in making the best use of cover, and in the duties of outpost and patrol. To reserve their fire, to husband their ammunition, became second nature. From the pictures of war so often presented to them, they derived a useful familiarity with the conditions of battle, and with the liberty of action it accords to all; a freedom almost bewildering after the mechanical movements of the drill-ground. They, too, (for much attention was given to their individual instruction), became skilled fighting-men, capable, when needful, of using their reason and intelligence, and not merely a well-drilled and courageous mass.

Moreover, by this uniform training, under the supervision of Von Moltke and the staff, unity of action was guaranteed. To paraphrase Von der Goltz:—"There was a certain harmony in the manner of performing the tasks that battle set forth. Sound principles had been engrafted into the flesh and blood of the officers by teaching and training, for only thus was it possible that a certain task should be performed by all on whom it might be imposed, not indeed after one single fashion, but on similar principles." The value of this unity of action cannot be denied. In ill-trained armies, as these of the French in 1870, and of both the Federal and Confederate States in the earlier campaigns of the War of Secession, its absence was conspicuous, and marred, over and over again, the best-laid schemes of their commanders. "Experience taught me," says Von Muffling a veteran of many wars, "that the habit of acting according to the circumstances and not on fixed principles, makes characters otherwise the most confident, mistrustful; and that one soldier will not trust another, if he never knows beforehand how the latter will resolve to act in this or that position."

It is not surprising that in the French army, already ill-disciplined, when the soldier saw his leaders acting on divergent principles, and failing to render each other loyal support, the cry of treachery should have arisen, or the old vigour in attack and tenacity of defence have become relaxed.

And I ask the reader to note with particular attention that this acting on similar principles, and the consequent confidence of the Prussian officers in one another, was in a large degree due to the influence of the General Staff. Trained and instructed for more than ten years by Von Moltke himself, the generals and subordinate officers who had passed through his hands had all been educated on the same lines; the same important principles had been impressed upon the minds of all; those who could not be trusted, from some deficiency of character, to apply those principles, were not placed in positions of responsibility; the influence of the remainder permeated the whole army and brought about the harmonious co-operation, the daring and the mutual confidence, which was so well exemplified at Spicheren. Had this not been the case, should we have seen that resolute pushing of the attack on the part of every leader, which contrasted in so great a degree with the wide differences in resolution that were seen amongst the French, and which contributed more largely than all else to the ultimate success of the Prussian armies in the campaign of 1870?

"Of all the elements of superiority which Prussia would possess, the greatest and most undeniable," wrote Baron Stoffel, the French military attaché at Berlin, in 1868, "will be that she will obtain from the composition of her Corps of Staff Officers . . . My conviction on this point is so strong," he adds, "that I would once more express it, *Let us distrust the Prussian Staff.*"

It is perhaps the brightest, as it has been the least recognised, of Von Moltke's laurels, that he taught the Prussian generals the way to victory; and it is impossible not to realize, when we look at the extraordinary results of his teaching, that this was a work worthy of the greatest soldier; impossible to overlook the fact that the permanent chief of the staff, whose duty was the instruction of the leaders of the army in the art of war, and the selection of those best fitted for such grave responsibility, was perhaps the most important factor in the military system of the Prussian kingdom.

Regarding tactical leading:—To those have never seen war, it may seem that the tactical strokes of the battle which have been characterized as skilful and even brilliant,

were exceedingly obvious means of meeting the difficulties that presented themselves; and that any man of common sense, with a cool head and a stout heart, would, under similar circumstances, have acted in like manner. But what says Von Clausewitz, first of military writers? "In war all is simple, but the simple is difficult." The weakness of our common humanity renders tactical leading no easy task. Without practical experience, the most complicated problems can be readily solved upon the map. To handle troops in battle exercises or on manœuvres, where an officer's military character is in some degree at stake, and quick decision is demanded, is a harder task; but its difficulties decrease with practice. But before the enemy, where the honour of the nation and the judgment of the present and of future generations are at stake, where history is making and the lives of thousands may be the cost of a mistake, there, under such a weight of responsibility, common sense, and even practised military judgment find it no simple matter to assert themselves. "Very frequently," says Von der Goltz, "the time will be wanting for careful consideration. Sometimes the excitement does not permit it. Resolve, and this is a truth which those who have not seen war will do well to ponder over, is then something instinctive." And if this is true of the general, who is at least undisturbed by heavy fire, though borne down by a heavier responsibility, it is doubly true of those who lead the fighting line. Amid the infernal din of musketry and the crash of bursting shells, when death is rife, and the will struggles for the mastery with the body, when the excitement is intense, and events succeed one another with bewildering rapidity, when the whole attention is irresistibly attracted to the enemy in front, to the spot whence comes the hottest fire; and when at the same time the men must be held in hand and their every action supervised, is such the moment for calm and deliberate calculation? Can the man of common sense now be trusted, inexperienced and untrained, first, to discover the principle on which he should act, and that done, to conceive a resolve which promises success, and is yet in harmony with the operations of those about him?

There are few with experience of actual service who have not to acknowledge mistakes committed in the tumult of battle, which on the map or on the field of manoeuvre would have been avoided. In the *Krieg Spiel*, or in peace exercises, human nature does not interpose; there is time for thought and consideration; the glance is calm and comprehensive, embracing front and flanks as far as the eye can range; the mind is undisturbed, and can deliberately weigh the merits of various modes of action. But in battle the officers and men of the fighting line can act only as it were by impulse, on the instinct of habit; and this instinct should be founded on true principles, created by constant practice, and confirmed by discipline.

A strong spirit of initiative, correct and deep-rooted instinct, and unity of action, are the qualities which are essential for the successful leading of the fighting line; and these are created by sound general principles "being engrafted into the flesh and blood," thereby securing intelligent decision; by a careful training of the capacity for independent action; by the uniform tactical education of the officers, and by the constant practice of battle exercises.

These in conjunction, and these only, produce tactical skill. And without tactical skill, an army, however brave the individuals who compose it, will, like the French in 1870, lose every opportunity; and, as they did at Spicheren, will fail to profit by the enemy's mistakes.

We need not go further than Spicheren to understand the extraordinary influence of individual character in war.

When we compare the conduct of the Prussian leaders, anticipating orders and marching to the sound of the cannon, with the indifference of Bazaine and the generals on whose dull ears the same sound fell, we cannot fail to realize what an important part is played by resolution allied to knowledge and by ignorance combined with negligence. An absolute want of energy was perhaps the most conspicuous failing of the French generals in 1870, whilst on the German side its existence was almost superabundant. It is instructive

to note that in the campaign of 1805, the parts played in 1870 were reversed. On the one side was an army, practically acquainted with war and acting on sound general principles, on the other, an army without experience, and generals striving to apply, without considering the surrounding circumstances, the identical tactics and manœuvres successfully employed in a bygone era. On the one side was energy and initiative, tempered by prudence; on the other, rashness, and vacillation.

The courage of both was equal; the tactics of the Prussians were obsolete.

But the systems under which the armies were trained were also reversed. Napoleon inspired his soldiers with his own resolute and daring spirit: despising over-caution, he encouraged initiative, and officers and men were eager to reap the laurels which his example showed them might be won by skill and daring. The Prussians, on the other hand, relying on tradition, knew war as it had been, but not as it was; ardour and ambition were crushed, for high rank was the reward only of seniority or birth; the generals, unable to apply the tactics of Frederick, were without resources, nor had they learnt from recent history that the lightning stroke of the conqueror of Montenotte and Marengo was very different from the deliberate movements of the Austrian Marshals of the Seven Years' War.

The unflagging and calculated energy which distinguished the armies of Napoleon; which, personified in Blücher and Gneisenau, brought the Prussians up in time to Waterloo; in Lee and Jackson, held the hosts of the North at bay for four long years; in Grant and Sherman, carried Richmond at last; and in Moltke and his soldiers, defeated Austria in seven weeks, Imperial France in ninety days, is not the gift of nature, but the fruit of an abiding sense of duty, however inspired, whether by the influence of the commander, or by discipline; the outcome of familiarity with war and of the moral courage which fears not responsibility.

Energy unaccompanied by knowledge is of little worth. A man ignorant of the channels into which he should direct it, expends it uselessly; its effects are not apparent except for

evil ; and without the aid of discipline neither native resolution nor patriotic enthusiasm will outlive the hardships and fatigues of a campaign. *To create a fruitful and abiding energy in both officers and men, the Prussian system of command, of training, and of decentralization, was devised ;* and the deeper our study of military history, the surer grows our conviction that in so doing they acted in accordance with the greatest of the fundamental principles of war, and that to this quality, not to superior numbers or courage, their extraordinary success was due. "The world has seen before," says Hamley, "war-like people and victorious armies, but "never before a people or an army who have sought the secret "of success with study so thorough, and with zeal and self-denial so stern as those which serve the German Emperor."

In the science of war there are certain invariable principles, and history proves for us that the most important is this :—The army which employs the tactics best adapted to the weapons in use, unless grave errors of generalship, like Von Kamecke's at Spicheren, intervene, will prevail in battle. The French, in both the revolutionary and Napoleonic wars, defeated the heavy columns or rigid lines of other nations by means of clouds of skirmishers and small flexible columns. But in the Peninsula matters were reversed; the English made the battalions the tactical units ; and these, on the offensive, advancing rapidly in quarter-distance columns and as rapidly deploying, or, on the defensive, forming independent fractions of the front of resistance, and charging independently for a short distance in line, were invariably successful against the heavy columns which their enemy had now resorted to. At Waterloo, again, Napoleon himself, although commanding an army of thoroughly well-trained veterans, unaccountably abandoned the battalion columns which had proved so effective in his campaign of the preceding year ; and his massed divisions were everywhere defeated. It is a curious fact that the French, although recognising the superior efficacy of fire and flexibility, and generally developing them to the utmost against the continental nations, should, with a fatal persistency, have adopted the unwieldy formations and inferior "shock" tactics which had so invariably failed against them—

selves, whenever they met the English. At the Alma and at Inkerman, shock and fire formations were again pitted against each other; and again the best tactics won. The same was the case in 1866. Before 1870, the Germans had foreseen, in some degree, the tactics best adapted to the breech-loader. They had recognised the efficacy and necessity of flank attacks, the strength of the offensive, the vigour and elasticity of a flexible line of small tactical units, and the ascendancy of accurate individual fire.

By a system of careful individual training, theoretical and practical, applied both to officers and men, they provided for the prosecution of these correct tactics; and in an unbroken series of victories over a brave and warlike enemy, they found their due reward. Once again the best tacticians conquered, for the French, although wanting both in discipline and organization, were still perfectly capable, as we have seen at Spicheren, of rapid manœuvres, tenacious defence and vigorous attack; but the unskilful tactics of their leaders utterly wasted the martial qualities of the men.

It was not the commanders alone who were at fault. We have few details of the battalion and company fighting of the French regular army, but nevertheless, from the somewhat meagre records of Frossard's troops, we can gather sufficient evidence to prove the general incapacity of the subordinate leaders, confirmed as it is by the history of the remaining battles of the campaign.

We may instance the failure of the cavalry officers to procure information; the unskilful defence of the homesteads; the sudden and injudicious suspension of the counter-attack on the 39th Fusiliers in the Gifert Wood; the absence of any look-out from the trenches on the Rotherberg, prior to their capture by the 74th; the failure to engage or even to threaten strongly the right flank of the assailants of Stiring Wendel; the isolated counter-strokes, delivered by successive battalions, and unsupported by the artillery, together with the general reckless and uncontrolled fire of both the infantry and artillery.

The Emperor and his councillors relied on the experience of the army, although gained under obsolete conditions; on

its courage and warlike aptitude ; but they taught it nothing. The nation, blindly believing in the invincibility of its arms, and ignorant of the causes of success and defeat in war, acquiesced in this neglect ; and in the hour of trial, the army, although conspicuous as ever for gallantry and devotion on the field of battle, proved unable to arrest the victorious march of a well-trained enemy. I do not for a moment intend to assert that the French, inferior in numbers, in organization, and in generalship, could possibly have succeeded in driving the Germans back across the frontier. But what I do affirm is this :—If the French officers had been educated on sound tactical principles ; if they had recognised the power of the offensive, the necessity of information, the importance of united action, and the value of controlled fire, and had learnt by constant practice—the only possible method—to act upon these principles ; if, again, the most ordinary duties of the staff and regimental officers, those pertaining to reconnaissance, to the outpost line, to the maintenance of communications and to the defence of posts, had been properly carried out, not only would the mistakes of the generals have often been prevented and their consequences always mitigated, but the losses and the difficulties of the Germans have been greatly increased ; the unparalleled catastrophes of Sedan and Metz avoided ; and the nation, under cover of the protracted resistance of the regular army, have gained time to develop its immense resources, and have at least obtained more favourable terms.

France was betrayed by her Government, which had cried “We are ready !” when all was in confusion, and had neglected to instruct her soldiers. Ninety days after the declaration of war the Imperial army had ceased to exist. It had been engaged in eight great battles. More than once was victory within its grasp, but the incapacity of the leaders let it slip. More than once was it surprised ; and almost on every battle-field the lack of tactical skill and of that ready initiative which practice alone gives, prevented its officers from recognising and using favourable opportunities. In 1870, for the first time, an army trained upon the old system encountered with equal armament, an army trained upon the new ; and even when numbers and position were against it,

the triumph of the latter was so complete, that all question as to the value of tactical knowledge and the practical and individual training of both officers and men, was at once and for ever set at rest.

Spieheren is a remarkable instance of the good results of the Prussian system. It has often been cited as an instance of the superior fighting qualities of their army. For this opinion there is no warrant. The position on the heights was formidable. But the very indifferent tactics of the French surrendered all its advantages. The assailant gained the crest of the plateau without loss or difficulty, and the real battle was fought out on equal terms as regards the ground. The storm of the Rotherberg was a daring feat of arms; but it was a surprise, and, as a defensive post, the spur had all the disadvantage of steep hill-sides which were not commanded from the crest. This achievement, as well as the capture of the Golden Bremm, the two most brilliant incidents of the engagement, were, moreover, made possible by the very effective aid of the artillery. It is true, also, that the Prussians drove an equal number of French infantry from the Gifert Wood; but against the latter was the moral effect of the capture of the Rotherberg, and the out-flanking position of the 48th Regiment along the Pfaffen border. The Spieheren Wood was also carried, but here again the French had a very strong second line, from which their reserves never moved. On the left, in the copse, the Prussians were really heavily defeated. Only the opportune intervention of the 13th Division saved the battle.

The true causes of success were the celerity with which every body of troops within hearing marched to the sound of the cannon, the combination of the artillery and infantry, the energy of the attack, the moral advantages of the latter in a close country, where the defender is always uncertain of the numbers opposed to him, the constant turning movements, and, lastly, the errors of the French generals. At no single point did the Prussians show themselves superior in courage or hardihood to their opponents. But they did not, like their opponents, rely on natural attributes or martial spirit alone. Officers and men had received the highest training, both of mind and body, that was possible in peace. It was this training which turned the scale.

APPENDIX.

APPENDIX I.

Actual strength of the Prussian forces at the battle of Spicheren :—*

FIRST ARMY.

		Total.		
		Battalions.	Squadrons.	Batteries
I Army Corps	$\frac{4 H}{I}$	$\frac{4 L}{I}$		2
VII „ „	55th Regt.	4	4	4
13th Division	7th Jägers.			
	8th Hussars.			
	5, 6, II, III.			
	<u>7</u>			
14th Division	The whole, except	8/39	11 $\frac{3}{4}$	4
VIII Army Corps	40th Regiment.	3	4	2
	9th Hussars.			
	VI, 6 L.			
16th Division	<u>8</u>			

SECOND ARMY.

III Army Corps			
5th Division	The whole, except	1/52	12 $\frac{3}{4}$
6th Division	20th Regt., 3 batteries	3	—
5th Cav. Div.	19th Dragoons.		4
	11th Hussars.		4
	17th Hussars.		4
6th Cav. Div.	6th Cuirassiers.		4
	3rd Uhlans.		1
		<u>34$\frac{1}{2}$</u>	<u>37</u>
			18

* From the *Militär Wochenblatt*.

The average strength of 13th Division—930 rifles per battalion

„	„	14th	„	925	„	„
„	„	16th	„	900	„	„
„	„	5th	„	940	„	„
„	„	6th	„	920	„	„
„	„	Squadrons, 140 sabres				
Total.						
	VII	Army Corps	Infantry.	Cavalry.		Artillery.
			14,589	1,120		48
	VIII	„ „	2,700	460		12
	III	„ „	12,905	560		36
						12
		5th Cavalry Division		1,680		
		6th „ „		700		
			30,194	4,520		108

Actual strength of the French forces at the battle of Spicheren :—

	Battalions.	Squadrons.	Batteries.	Engineer Companies.
2nd Corps d'Armée	39	16	15	2
	Average strength of battalion, 620			
	„	„	squadrons, 130	
	„	„	engineer co., 119	
Total.				
	24,419 infantry (including sappers).			
	3,200 cavalry.			
	90 guns.			

THE PRUSSIAN LOSSES.

III ARMY CORPS.

		Officers.	Men.	Horses.
48th Regiment	... ..	25	548	—
8th Grenadiers	... ..	12	380	—
12th Grenadiers	... ..	35	771	—
52nd Regiment	... ..	4	116	—
3rd Jägers	... ..	3	56	—
12th Dragoons	... ..	—	1	2
3rd F. A. Regiment	... ..	4	39	42
Sanitary Detachment	... ..	—	1	—

VII ARMY CORPS.

13th Division.

			Officers.	Men.	Horses.
55th Regiment	...	...	3	85	—
7th Jägers	...	...	1	7	—
7th F. A. Regiment	...	...	1	—	1
8th Hussars	...	...	—	—	4

14th Division.

Staff	...	...	1	—	—
39th Fusiliers	...	...	27	628	—
74th Regiment	...	...	36	661	—
53rd Regiment	...	...	14	209	—
77th Regiment	...	...	26	602	—
15th Hussars	...	...	—	1	—
7th F. A. Regiment	...	...	2	24	—
Sanitary Detachment	...	...	1	—	43

VIII ARMY CORPS.

40th Fusiliers	...	...	25	468	—
9th Hussars	...	...	—	5	18
8th F. A. Regiment	...	...	—	10	17

5th Cavalry Division.

19th Hussars	...	...	1	7	11
11th Hussars	...	...	—	9	5
17th Hussars	...	...	2	19	32

6th Cavalry Division.

6th Cuirassiers—1 man, 4 horses wounded.

TOTAL CASUALTIES.

			Officers.	Men.	
Killed	...	...	49	794	= 843
Wounded	...	...	174	3482	= 3656
Missing	...	...	—	372	= 372
			223	4648	= 4871

In the 12th Grenadiers, the regiment which incurred the heaviest loss, the casualties were thus distributed :—

	Officers.	Men.	
First Battalion	13	356	} 8 officers & 132 men killed.
Second Battalion	13	210	
Fusilier Battalion	9	206	
	<hr/> 35	<hr/> 772	

	Officers.	Men.
The First Company	5	76
The Second Company	3	128
The Fourth Company	4	86
The Ninth Company	5	62

Out of a total of 62 officers the regiment lost 36.

In the next battle in which it was engaged (Vionville), it suffered a further diminution of 13 officers and 424 men; at Gravelotte, two days afterwards, it mustered but 11 officers and 1,800 men, and there were but two company officers, and these second lieutenants, to each battalion.

The three companies of the 8th Grenadiers, which captured the south-west angle of the Gifert Wood by a charge across the saddle of the Rotherberg, lost 8 officers and 289 men; the five companies engaged in the Spicheren Wood, 5 officers and 68 men.

The 77th Regiment also suffered heavily :—

	Officers.	Men.
First Battalion	7	147
Second „	11	221
Fusilier „ (Captured Golden Bremm & Baraque Mouton.)	7	234

THE FRENCH LOSSES.

	Officers.	Men.	
Staff	4	—	
<i>First Division.</i>			
3rd Chasseurs	6	225	} 1185*
32nd Regiment	20	310	
55th Regiment	5	200	
76th Regiment	18	217	
77th Regiment	8	280	

Second Division.

			Officers.	Men.	
8th Regiment	15	295	} 731*
23rd Regiment	...	...	7	—
66th Regiment	...	...	12	201
67th Regiment	...	...	4	—

Third Division.

10th Chasseurs	10	215	} 1784*
2nd Regiment	...	...	24	357
63rd Regiment	...	...	14	158
24th Regiment	...	...	25	462
40th Regiment	...	...	33	531

Cavalry.

5th Chasseurs	1	—	} 46*
7th Dragoons	...	...	2	8
12th Dragoons	...	...	5	21

Artillery.

Artillery	3	—	60*
-----------	-----	-----	---	---	-----

Engineers.

13th Company	...	...	3	29	23*
Total Casualties	...	...	249	3829	4078*

The French battalions mustered about 20 officers each, and the missing, who included both the wounded left in the woods and those captured, amounted to 44 officers and 2,052 men. Many of the former doubtless died of their wounds, and it is useless, therefore, to attempt a detailed list of the killed and wounded. The losses of some of the batteries have been alluded to in the body of the work, (page 204). It may be mentioned that the casualty lists of the German officers contain the names of the non-commissioned officers holding rank of vice-sergeant major and ensign, whilst those of the French have only the names of those who held commissions. Were the former eliminated, the loss of the 12th Grenadiers, in officers, would sink to 29, of the 74th to 30, of the 39th to 22.

* From Frossard's Report. Losses of individual Corps from Regimental Histories, &c., &c.

Both battalions of Chasseurs and also the 2nd Regiment suffered very heavily. The former lost each a third of their strength, and the latter, of which four companies remained in reserve the whole day, and the total effective strength did not exceed 1,700 bayonets, lost 24 officers out of 52 engaged, and 357 men out of 1,140, of whom, according to the Regimental History, 109 were killed or died of wounds.

The numbers actually engaged on either side were :—
 French, 23,679 infantry, 72 guns, and 18 mitrailleuses.
 Prussian, 26,494 infantry, and 66 guns.

PERCENTAGE OF LOSS.

French	...	...	17.36.
Prussian	...	...	17.21.

N O T E .

It has been suggested to me that I should make some reference to the effect smokeless powder, a more powerful artillery, and a longer-ranging and more accurate rifle would have had upon the course and issue of the battle. I can only say that, in my own opinion, although the losses would probably have been greater, the tactics would not have been materially affected. Smokeless powder would have made no difference whatever. The Prussian battalions attacked certain parts of the position regardless whether they were held or not. The fact that no enemy was to be seen in the Gifert Wood or Stiring Copse was not taken into consideration. The attack was pressed on until the losses became too heavy or the fire ceased. As regards the rifle, the chassepôt was little inferior to those now in use, and it is noteworthy that the Prussians on the offensive were able to approach within 600 yards, that is, within effective range, with very little difficulty. The decisive fighting took place inside 300 yards, a distance at which even the needle-gun was almost as effective as the rifle of to-day. Magazine fire would possibly have saved the Golden Bremm, and made the recapture of the Copse a more costly operation, but it is a weapon as useful to the attack as the defence.

APPENDIX II.

FIRST ARMY. GENERAL VON STEINMETZ.

VII ARMY CORPS. GENL. VON ZASTROW.	13th Infantry Division. Lieut.-Genl. Von Glumer.	25th Brigade.	{ 13th Regiment. 73rd Fusiliers.
		26th Brigade. Major-Genl. Von de Goltz.	{ 14th Regiment. 55th Regiment. 7th Jägers. 8th Hussars. 4 Batteries, 7th F.A. Regiment.
	14th Infantry Division. Lieut.-Genl. Von Kam-ecke.	27th Brigade. Major-Genl. Von François.	{ 39th Fusiliers. 74th Regiment.
		28th Brigade. Major-Genl. Von Woyna.	{ 53rd Regiment. 77th Regiment. 15th Hussars. 4 Batteries, 7th F.A. Regiment
		Corps Artillery—	6 Batteries, 7th F.A. Regt. 7th Pioneer Battalion. 7th Train Battalion.
VIII ARMY CORPS. GEN. VON GOEBEN.	15th Infantry Division.	29th Brigade.	{ 33rd Fusiliers. 60th Regiment.
		30th Brigade.	{ 28th Regiment. 67th Regiment. 8th Jägers. 7th Hussars. 4 Batteries, 8th F.A. Regiment.
	16th Infantry Division. Lieut.-Genl. Von Barnekow.	31st Brigade.	{ 29th Regiment. 69th Regiment.
		32nd Brigade. Col. Von Rex.	{ 40th Fusiliers. 72nd Regiment. 9th Hussars. 4 Batteries, 8th F.A. Regiment.
		Corps Artillery—	7 Batteries, 8th F.A. Regiment. 8th Pioneer Battalion. 8th Train Battalion.

3RD CAV- ALRY DIVISION.	{	6th Cavalry Brigade.	{ 8th Cuirassiers.
			{ 7th Uhlans.
		7th Cavalry Brigade.	{ 5th Uhlans.
			{ 14th Uhlans.
			1 H.A. Battery, 7th Regiment.

SECOND ARMY. H.R.H. PRINCE FREDERICK CHARLES.

5TH CAVALRY DIVISION. GEN. VON ALVENSELEEN III ARMY CORPS.	{	5th Infantry Division, Lieut.-Genl. Von Stulpnagel.	{	9th Brigade.	{	8th Body Guard Grenadiers.
				Major-Genl. Von Doring.		48th Regiment.
				10th Brigade.		12th Grenadiers.
				Major-Genl. Von Schwerin		52nd Regiment.
		6th Infantry Division, Lieut.-Genl. Von Buddenbrook.	{			3rd Jägers.
						12th Dragoons.
						4 Batteries, 3rd F.A. Regiment.
				11th Brigade.		20th Regiment.
						35th Fusiliers.
				12th Brigade.		24th Regiment.
						64th Regiment.
						2nd Dragoons.
						4 Batteries, 3rd F.A. Regiment.
				Corps Artillery—		6 Batteries, 3rd F.A. Regiment.
6TH CAVALRY DIVISION. GENERAL VON RHEINBAREN. (temporary)	{	11th Cavalry Brigade.	{		{	4th Cuirassiers.
						13th Uhlans.
						19th Dragoons.
		12th Cavalry Brigade.	{			7th Cuirassiers.
						16th Uhlans.
						13th Dragoons.
		13th Cavalry Brigade.	{			10th Hussars.
						11th Hussars.
						17th Hussars.
						1 H.A. Battery, 4th Regiment.
6TH CAVALRY DIVISION. GENERAL VON RHEINBAREN. (temporary)	{	14th Cavalry Brigade.	{		{	1 H.A. Battery, 10th Regiment.
		15th Cavalry Brigade.	{		{	
						6th Cuirassiers.
						3rd Uhlans.
						15th Uhlans.
						3rd Hussars.
						16th Hussars.
						1 H.A. Battery, 3rd F.A. Regiment.

FRENCH. MARSHAL BAZAINE.

SECOND CORPS D'ARMEE.	GENERAL FROSSARD.	1st Division. Vergé.	1st Brigade.	{ 3rd Chasseurs.
			Valazé.	{ 32nd Line.
				{ 55th Line.
		2nd Division Bataille.	2nd Brigade.	{ 76th Line.
			Jolivet.	{ 77th Line.
				{ 3 Batteries, 5th Regiment. (1 Mit.) 1 Sapper Company, 2nd Regiment.
		3rd Division. Laveaucoupet.	1st Brigade.	{ 12th Chasseurs.
			Pouget.	{ 8th Line.
				{ 23rd Line.
		CAVALRY DIVISION	VALABREGUE.	2nd Brigade.	Bastoul.	{ 66th Line.
	{ 67th Line			
	{ 3 Batteries, 5th Regiment. (1 Mit.) 1 Sapper Company, 2nd Regiment.			
1st Brigade.	Doens.			{ 10th Chasseurs.
				{ 2nd Line.
				{ 63rd Line.
2nd Brigade.	Micheler.			{ 24th Line.
				{ 40th Line.
				{ 3 Batteries, 15th Regiment. (1 Mit.) 1 Sapper Company, 3rd Regiment.
Reserve Artillery—8 Batteries, 5th, 15th, and 17th Regiments.				
THIRD CORPS D'ARMEE.	MARSHAL BAZAINE.	1st Division.	Montaudon.	
			2nd Division.	Castagny.
			3rd Division.	Metman.
			4th Division.	Decæn.
Cavalry Division.				

FOURTH CORPS D'ARMEE. } 3 Infantry and 1 Cavalry Division.
GENERAL L'ADMIRALTY.

LAPASSETS' BRIGADE OF FIFTH (DE FAILLY'S) CORPS D'ARMEE.

APPENDIX III.

QUESTIONS TO BE WORKED OUT BY THE READER. (GUIDES TO THE ANSWERS WILL BE FOUND ON THE PAGES REFERRED TO.)

1. How would you dispose the outposts of 1 battalion of 500 men and 3 squadrons on the Saarbrücken Ridge? What orders would you give as to patrolling? Pages 52-3.
2. How would you dispose the outposts of 3 battalions, 40th, 1 Company, 69th, and 3 squadrons, and 1 battery? Pages 57-8.
3. How would you occupy the Saarbrücken Ridge in case of attack, and how would you conduct the action? Pages 60-5.
4. Draw up orders for withdrawal of Von Gneisenau's detachment to Hilsbach. Page 65.
5. How would you dispose of the three divisions of the 2nd Corps after withdrawing from the ridge? Pages 73, and 117-8.
6. Draw up general directions for advance of Second Army to the Saar, and co-operation in battle, if necessary, of the First Army. Page 79.
7. How would you move the 7th Corps from Trèves to line Wadern-Saarburg? Page 81.
- 7a. How would you dispose the 3rd, 5th, and 6th Cavalry Divisions as a screen? Page 86.
8. Draw up dispositions for the advance of the Second Army to the line Neunkirchen-Zweibrücken, and subsequent deployment. Pages 88 and 92.
9. Formations of 13th and 14th Divisions on the march. Pages 95-96.
10. Formation of 9th Brigade on the march. Page 100.

- 10a. Give directions for reconnaissances to be carried out by 11th and 13th Cavalry Divisions, and indicate the points to be visited. Pages 101-2.
11. As commander of 14th Division, what would be your action on learning at Guichenbach that the Saarbrücken Ridge had been evacuated? Page 106.
12. As commander of 14th Division what would be your action on reaching the ridge? Page 108-9.
13. As commander of 14th Division, what would be your action on learning that the enemy was retreating? Page 114.
14. As commander of 2nd Corps, how would you have occupied the Spichenen position? Pages 132-5.
15. Arrange for occupation of Drathzug and defence of the railroad by II/74. Page 142.
16. As commander of 14th Division, give directions for the attack of the French position. Pages 140-1, 172-3.
- 16a. How would you have disposed of your four batteries? Page 141.
17. As commanding II/74, what would have been your action when III/39 began to fall back. Pages 143-4.
18. As commander of 14th Division, how would you have supported attack of the 74th in the Rotherberg? Page 148.
19. As commander of the 2nd Corps, how would you have dealt with the Prussians at 2.30 p.m.? Pages 152 and 257.
20. As commander of 13th Division (advanced guard at Wehrden), how would you have acted on hearing the caution and receiving the reports quoted? Form up your advanced guard. Pages 157-8, and 238.
21. How would you have carried out the counterstroke at 2.30 p.m.? Page 161.

22. As General Von Goeben, draw up a plan of action to relieve the pressure on the troops holding the Rotherberg and Gifert Wood? Page 179.
 23. Draw up the 2 battalions (8 companies) of 48th Regiment in attack formation. Page 180.
 24. What should have been the object of the six batteries on the Galgenberg? Page 183.
 25. Make dispositions for an attack on Toll House, Golden Bremm, and Baraque Mouton, indicating line to be followed by F/77. Page 191.
 26. Describe how you would have employed the next aiming battalion. Page 204.
 27. State how you would have met Bataille's counter-stroke after the French infantry had abandoned the N.-W. portion of the Spicheren Heights. Page 213.
 28. How would you have supported the Prussian infantry on the Heights? Pages 218-19.
 29. How would you have disposed of the 6 battalions which had just arrived on the Ridge? Page 223.
 30. How would you have protected the exposed flank, and have formed the troops for the attack of the Spicheren Wood? Page 225.
 31. Describe how you would have drawn up the 55th Regiment as a rear guard. Page 235.
 32. Form up advanced guard of 13th Division for the attack of the Kaninchenberg. Page 239.
 33. State what you would have done, as commanding one of Bazaine's divisions, when you heard the sound of cannon to the front. Page 252.
 34. How would you have employed the Prussian cavalry during the battle? Page 282.
-

10

10

10

10

10

10

10

10

10

10

10

10

10

10

10

10

10

10

10

10

10





Gale & Polden Ltd

PRINTERS AND PUBLISHERS,



WELLINGTON WORKS, ALDERSHOT.

SPECIAL LIST OF MILITARY WORKS.

*New Books, and those in preparation, will be found in our
Advertisements in THE ALDERSHOT NEWS (page 6),
and MILITARY MAIL (page 6).*

TERMS:

The Calculation of Prices is made on the basis of payment in **NET CASH**. Therefore, **ALL ORDERS** must be accompanied by a remittance.

Cheques should be crossed "Capital and Counties Bank," payable to the order of **GALE & POLDEN, Ltd.** Post Office Orders should be payable at **ALDERSHOT**.

MONTHLY ACCOUNTS

Are opened to Officers' and Sergeants' Messes, Canteens, Officers Commanding Corps and Companies, and Adjutants.

DEPOSIT ACCOUNTS.

To save the trouble and expense of sending money through the post, Deposit Accounts may be opened for sums of not less than £2. The Deposit Account will be debited with the amount of each order, and on application at any time, the amount due, if any, returned immediately. Orders to be paid for out of Deposit Account should be marked "Deposit Account."

Our telegraphic address is "Polden, Aldershot." Customers, requiring goods in haste, may now telegraph for same by making use of the new telegraph money orders. For particulars, see the Postal Guide.

(Books are numbered in Catalogue for this purpose.)

Customers who may receive Duplicate Catalogues, will greatly oblige if they will place the same on the Mess or Library Table.

We keep the Largest Stock of **MILITARY** Books in the World, and our Stock at times exceeds a **Million Volumes**.

All orders forwarded direct to us, are attended to on the day they are received, if Cash is sent with Order.

FACTORY:

Wellington Works, Aldershot.

Telegraphic Address—"Polden, Aldershot."

Telephone No. 2, Aldershot.

LONDON:

2, Amen Corner, Paternoster Row, E.C.

Telegraphic Address—"Picquets, London."

Telephone No. 954, Holborn.

„ No. 281, Central.

INDEX

	PAGE
ACCOUNT Books, Canteen	30
" " Officers' Messes	33
" " Pay Sergeants'	22
" " Sergeants' Messes	32
A Common-Sense Army	1
Aiming Card for Sights of Rifles	18
Aids to Equitation	6
" Scouting	1
" Skirmishing	27
" to Hythe Musketry Certificate	18
Albums of Views	39 & 40
Album, Army Crests	5
1st Army Corps Standing Orders	2
" Aldershot News"	2
Aldershot Military Map of	1
" Standing Orders, 3rd Inf. Bde.	2
" " 4th Inf. Bde.	2
" Standing Orders, 2nd Division	2
" Guide to	2
Allowance Regulations	2
Alphabetical Roll Book	2
Arithmode, (Military Examination Papers)	11
Arithmetic Test Cards	2
Army Forms and Books	88
" Note Books	19
" Nicknames in the	19
" Service Corps Standing Orders	2
" " " Regimental Supply, Transport, etc.	2
" " " Supply Handbook	2
" " " Training	2
" Ordnance Depôts in the Field	19
Artillery Roll Books	2
" Letters on	2
" Siege, Field, & Garrison Training for	2
" Duty Roster	2
" Orderly's Weekly Detail Book	2
" Record of Offences Book	2
" Shoeing Descriptive Roll	2
" Funds Account Book	2
" Ranging Block	3
Atlas, Military, for School Certificates	3
Attack and Defence	3
At Home with Tommy Atkins	1
Auxiliary Officers' Handbook	3
BADGES and Records	23
" Honours	5
Barrack-Room, " Wrinkles " for	3
" Useful Sheets for	3
Barrack-Room, Instructions in Arrangement of	3

	PAGE
Battle of Custoza	4
" " Spicheren	4
" " Fortification	4
Bed Cards and Tins for same	4
Bisley, Album of Views of	4
" " Military Map of	4
" " Boxing, " Modern System of	4
Body Building by Sandow	4
Breathing, Art of	4
British Army Crests, Badges, Album, Medals, etc.	5
Bugle Sounds	30
CAMPAIGN of Fredericksburg	5
" Campaigning Equipment, Guide to	19
Canteen Books, Forms, etc.	36
Canteens, Rules for	6
Cases for Forms, Books, etc.	6
Cash Book and Ledger, (Army Book 60)	6
Catch Questions in Infantry Training	18
Catechism on Field Training	9
Cavalry Vedettes	7
" Aids to Equitation	6
" Questions and Answers on Equitation	6
" Questions and Answers on Forage, etc.	7
" Hints on Stable Management	7
" Letters on	7
" Kit Plates	14
" Training	6
" Communicating Drill	6
" Notes on Care of Horses	7
" Outposts	7
" Roll Book	24
" Practical Hints on Scouting	7
" Sketching Board	26
Christmas Cards (Regimental)	27
Clothing Ledger	7
" Regulations for	7
" Instructions for Cleaning, Washing, etc.	3
Combined Training	8
Company Drill Made Easy	7
" Squad Roll Books	24
" Training Made Easy	8
Compounding and Dispensing Made Easy	8
Conventional Signs	8
Crests and Badges of British Army	5
Crests (British) Army, Album for	5
Cricketer Scoring Book	8
Cyclist Training	8

	PAGE
DANCE Invites, and Programme	32
Cards, etc.	8
Defence and Attack	6
Defaulter Sheets, Cases for	6
Despatch Cases	8
Detail Book, Sergeant-Major's	20
" " Orderly-Sergeant's	2
" " R.A. Orderly's Weekly	8
Discipline: its Reason & Battle Value	10
" Fire	8
Door Cards	8
Dress Regulations	8
Drill, Company	22
" Physical	10
" Fire Engine	8
" Certificates	9
" Cards, Infantry	3
Drowned, Treatment of apparently	3
Drunkness, Fines for	3
Dress and Equipment (Infantry) for various Parades	3
Duty Rosters	9

ENCAMPMENTS Made Easy	9
Engineer Service Regulations	9
Engineering, Instruction in (Military)	9
" Manual for Military	10
" Practical, Field Studies in	9
Equipment Regulations	30
Etiquette, Hints on, for Volunteer Officers	11
Examination Papers in Military Arithmetic	11
Expedition Method of Calculating Soldiers' Service	9

FIELD Training, Catechism on	9
" " Lecture on	10
" Engineering, (Practical) Studies in	10
" Fortification, Notes on	10
" Report Book	10
" Message Book	10
" Works, etc.	10
" Engineering Notes, Dimensions and Formulae	10
" Engineering Text Book	2
" Artillery Training	10
Fire Discipline	13
" Tactics (Infantry)	10
" Engine Drill	10
Free Gymnastics	11
Freemasonry, a Concise History of	11

GENERAL'S Inspection Cards	12
Guide to Promotion for Non-Coms. Militia Officers	17
" " sitting Slade - Wallace Equipment	27
" " Army School Certificates	11
" " Copying Manuscripts	11
" " Official Letter Writing	20

Guide to Health	11
" Meat Inspection	15
Gunnery, Practical	12
Gymnastics, Free, and Light Dumb-Bell Drill	10
Gymnastics, Tricks on the Horizontal Bar Exercises on the Parallel Bars	12

HAND-BOOK , Rifle and Carbine Exercises	18
Hand-book for Maxim Gun	15
" for Auxiliary Officers	3
" for Cavalry	7
Health, Soldier's	27
" Guide to	11
Hints on Stable Management	7
" on Etiquette for Volunteer Officers for Mounted Infantrymen (Practical)	17
" to Young Officers	12
" to Young Soldiers	12
" from Baden-Powell	12
" from Sandow	12
" to Recruits on Joining	3
" on Handwriting (for Army Schools)	11
History, Military	16
" House" on Sport	13
" House" Annual	13
How to Keep "Fit"	13
How to Post a Picquet	13

INFANTRY Training	13
" " Catch Questions in	13
" Fire Tactics	13
" (Mounted), Further Training of	17
" Letters on	13
" Sword Exercise	13
" Bugle Sounds, Music and Words	20
" Kit Plates	14
Inspection Cards	13
Increase of Soldiers' Emoluments	3
Imperial Yeomanry, various books for	21

KEY to Military Sketching Made Easy	27
" Kit Plates	14
King's Regulations	14
King's Regulations, Extracts from, for N.-C. O's and Men	3
Kit for West Africa, Notes on	19

LAW (Military) Examiner	16
" " Made Easy	16
" " Manual of	15
" " its Procedure and Practice	16
Life, and how to Live it	14

MANOEUVRE Duties, Made Easy	14
Manual, Royal Army Medical Corps	15
Maps, Aldershot	14
Map Reading and Field Sketching	14
Mainly about Shooting	14

	PAGE
Maxim Gun, Handbook for ...	15
Meat Inspection, Guide to ...	15
Medals & Ribbons of the British Army ...	5
Medical Corps, Regulations for ...	15
" Services in War, Notes on ...	15
Memory by "Dates" ...	15
Messing Allowance. Extract from ...	
Army Orders ...	3
Message Book (Field) ...	10
Messing of the Soldier ...	15
Messing Book, Cases for ...	6
Messing Books ...	15
Military Law Made Easy ...	16
" Examiner ...	16
" its Procedure & Practice ...	16
Military Law, Manual of ...	15
" Sketching Made Easy ...	26
" " Key to ...	26
" Note and Sketch Book ...	15
" Aths (for School Certificates) ...	3
" History ...	16
" Sketching (Practical) ...	26
" Terms (Technical), Vocabulary of ...	30
" Lodges: Freemasonry under ...	
Arms ...	16
" Military Mail ...	16
Militia, The. A Plea for Increased ...	
Efficiency ...	16
" and Volunteer Officers' Guide to ...	
Promotion ...	17
" History of ...	16
" Regulations ...	16
" Field Training ...	10
Mobilization for War ...	17
Mounted Infantry and Yeomanry; ...	
Further Training, etc. ...	17
Mounted Infantry Regulations ...	17
Mounted Infantry, Practical Hints for ...	17
Mounted Infantrymen, Notes on ...	17
Musketry Instructions ...	18
" Drill Certificates ...	9
" Aiming Card for Sights of Rifle ...	18
" Books, Forms, etc., for Civilian ...	
Rifle Clubs ...	17 & 25
" Diagram of Rifle ...	3 & 18
" Annual Course Scoring Book ...	18
" Recruits' Course Scoring Book ...	18
" Aids to Hythe Certificates ...	18
" Guide to Promotion for Officers ...	
Auxiliary Forces ...	18
" How to Clean the Service Rifle ...	18
NAPOLÉON'S War Maxims ...	19
Nicknames in the Army ...	19
Non-Coms.' Guide to Promotion ...	12
" Forms for ...	19
Notes on Writing Orders and Reports in ...	
the Field ...	19
Notes on Care of Horses ...	7
Notes on the Rendering of Contoured ...	
Maps ...	19
Note Books ...	19
" Paper and Envelopes ...	19
Notes on Kit for West Africa ...	19
Notes on the Service Pay of the Soldier ...	27
Notes on the Formation of Army Ord- ...	
nance Depôts in the Field ...	19

OFFICER'S Guide to Campaigning	PAGE
Equipment ...	20
Officer's Pocket Book ...	10
Officers (Auxiliary) Handbook for ...	3
Officers' Messes, Books, etc., for ...	33
Officers, Hints to Young ...	12
Official Letter Writing, Guide to ...	20
On Outpost Duty: What to do and how ...	
to do it ...	50
On Outpost Duty: Questions & Answers ...	3
On Guard Writing Companion ...	20
On Guard: What to do and how to do it ...	20
Organization and Tactical use—Cavalry, ...	
Artillery, and Infantry ...	20
Organization and Equipment Made ...	
Easy ...	21
Order Books ...	38
Orderly-Sergeant's Detail Book ...	20
Outposts, Cavalry ...	7
Oxford Military Note and Sketch Book ...	15

PASSES—Army Form ...	21
Railway, etc. ...	21
Patrolling in South Africa ...	21
Pay List and Pay and Mess Book Cases ...	6
Pay-Sergeant's Account Book ...	21
Pencils, Coloured ...	21
Pen, "Wellington" Stylograph ...	28
Permanent Passes ...	36
Physical Education, Theory of ...	22
" Exercises, Manual of ...	14
" Culture and Self Defense ...	22
" Drill with Arms ...	22
" Training without Arms ...	21
" Training, Army Handbook of ...	22
Piquet, How to post and tell off a ...	18
" Sketching Case for ...	26
Pictorial Postcards ...	41
Playing Cards (Regimental, Crested) ...	33
Pocket Book, Officer's ...	19
" Sergeant's ...	25
"Potterers' Club" ...	22
Protractors ...	22
Practical Gunnery ...	12

RANGING Book (Artillery) ...	3
Reading Cases for Magazines, etc. ...	24
Records and Badges ...	23
Regimental Duties Made Easy ...	23
" Christmas Cards ...	37
" Marches ...	23
" Rhymes ...	23
Register Cover for Target Practice ...	6
" of Record of Offences ...	23
Report Book (Field) ...	10
Rhymes from the Ranks ...	23
Rifle Shots Register, Scoring Book for ...	24
" and Carbine Exercises, Handbook ...	
for ...	18
Rifle and Carbine, Instructions for ...	
Cleaning ...	18
Road Reports ...	23
Roll & Descriptive Book (Alphabetical) ...	2
Royal Warrant for Pay, etc. ...	24

	PAGE
Running Recollections, & How to Train	24
Rules for Cantons	6
Reasons why a Soldier should attend an Army School	3
SANDHURST, Album of Views of	24
Scoring Book, Rifle Shots Register	25
" " for Rifle Match	
Shooting	24
" " Cricket	8
" " for Annual Course	18
" " for Recruits' Course	18
Scouting, Aids to	1
Scouts' Alphabet of Notes and Queries	24
Trainers' Course	24
Section Roll Books	24
" " for Volunteers	30
Sergeant-Major's Detail Book	8 & 25
Duty Roster	9
Sergeants' Pocket Book	24
Sergeants' Messes, Books for	32
Service Sketching Case and Note Book	25
Shooting Score Registers	24 & 25
Shooting Made Easy	25
Shooting, Mainly about	18
Shooting: "Wellington" Wind Chart	25
Sights for Wind Gauging	25
Signallers' Flag	25
Signalling Regulations	25
Morse Diagrams	26
Scribbling Book	26
Semaphore Alphabet	25
Message Book	25
Test Message Cards	26
Notes on	25
Semaphore Simplified	25
Signals, vide Infantry Training	3
Sketching Made Easy	26
" " Key to	27
" " Case, "The Picquet"	26
" " Cases	26
" " Companion	26
" " Coloured Pencils for	22
" " (PRACTICAL) Military	26
" " for Non-Coms. and Men	26
" " and Reconnaissance, Field	
Manual of	26
Skirmishing, Aids to	27
Made-Wallace Equipment, Guide to	27
Soldiers' Table Card, for Army Schools	27
" Pocket Manual	27
" Spelling Book	11
" Training and other Notes	27
" Health	27
" Young, Hints to	12
" Pocket Ledger, Cases for	6
Sport, "House" on	13
" in India and Somaliland	27
Squad Roll Books	24
Stable Management, Hints on	7
Standing Orders, 1st Army Corps, A'shot	2
" " 3rd Inf. Bde., Aldershot	2
" " Army Service Corps	2
" " Royal Army Medical Corps	15

	PAGE
Strategy & Military History, Notes on	28
Stretcher Drill	28
Strength, by Sandow	28
Surveying Protractors	29
Sword Exercise (Infantry)	13
(Cavalry)	7
Stylograph Pen	28

T TABLE Card (Soldiers')	27
Tactics for Beginners	29
" Made Easy for Non-Coms. and Men	29
" Modern, Thoughts on	29
Tactics by various Authors	28 & 29
Tactical Fitness for Command	28
Target Practice Register Cover	6
Telescope in War, Use of	29
Test Cards in Arithmetic	2
Thin Cases for Bed Cards	4
Tirah Field Force, etc.	30
Tower of London Album of Views	14
Training, Field, Catechism on	9
" Soldiers', and other Notes	27
" Physical	22
Trigonometry in a Nutshell	30
Trumpet and Bugle Sounds, Music and Words	30

V VALISE, Instructions for Packing same	3
View Albums	30 & 40
Veterinary, Manual of	7
Services, Regulations for	30
Vocabulary of Technical Military Terms	30
Volunteer Squad Roll Book	30
" Section Parade States	30
" Officers' Hints on Etiquette	30
" Drill Attendance Register	30
" Forms for	38
" Minor Tactics	30
" Force, Regulations for	30
" Garrison Artilleryman's Handbook	30
" Section Roll Book	30
" Colour-Sergeant's Roll Book	30
" Artillery Roll Book	31
" Officers' Guide to Promotion	17
" Practical Gunnery	12

W WAR Establishments	31
War Office Forms and Books	38
Washing Books	31
Waterloo, Story of	31
" Campaign, A Sketch of	31
What to Observe and how to Report it	31
Woking, Military Map of	1
" Wrinkles " for Barrack-rooms	3
Wind Exercises, Manual of	15
Wind Chart for Shooting	25

Y YEOMANRY, Further Training of	17
Yeomanry Regulations	31
" Imperial, Training	31
" Imperial, Questions and Answers for	31

LIST OF MILITARY WORKS

(NEW EDITIONS),

POST FREE FOR CASH WITH ORDER.

Several Military Works are now omitted from our Lists, owing to their not being up to date.

- 8 **At Home with Tommy Atkins.** By CALLUM BEG. Fully s. d.
Illustrated with 70 Plates from Photographs ... 1 0
CONTENTS:—Part I., THE RECRUIT—Part II., THE DUTY-MAN—Part III.,
MILITARY TYPES AND SOLDIERS' IDIOSYNCRASIES—Part IV., PROMOTION—Climbing
the Ladder; Appendices—A, Terms of Service; B, List of Pay; C, Oath taken by
Recruits on Attestation.

- 9 **Aids to Scouting for N.C.O.s and Men.** By Major-General
R. S. S. BADEN-POWELL, C.B., F.R.G.S. ... 1 0

"This little book is one of the most interesting and valuable of the many of the 'Military Series' brought out by the enterprising firm of Gale & Polden, Ltd. The manual is replete with information and instructive hints, which are very interesting reading also. It should be in the hands of every officer and soldier."—*The Broad Arrow*.

Aids to Skirmishing. See page 27.

" **Equitation (Cavalry).** See page 6.

" **Hythe Musketry Certificate.** See page 18.

Aldershot, Military Map of. 3-in. scale, specially surveyed and engraved, to meet Military requirements:—

11 Sheet I., containing ALDERSHOT CAMP and District.

12 Sheet II., containing WOKING and Surrounding Country.

13 Sheet III., containing BISLEY and Surrounding Country.

Printed on paper ... per sheet 2 0

Linen ... per sheet 3 6

- 353 **Aldershot, Guide to, and District,** including routes to Windsor, Kingston, Staines, Virginia Water, Guildford, Dorking, Leatherhead, Basingstoke, Petersfield, Alton, Hindhead and Haslemere, Godalming, etc., etc. A comprehensive descriptive guide, profusely illustrated, and with special maps of each route. Invaluable to all cyclists and tourists. Including Folding Pocket Map of Country 20 miles around Aldershot ... 1 0

- 354 **A Common-Sense Army.** By the Author of "An Absent-Minded War" ... 1 0

Albums of Views. See pages 39 and 40.

- 15 **"Aldershot News," The,** published every Friday.

SUBSCRIPTION RATES (POST PAID).

United Kingdom—Per year, 6/6. Six months, 3/3. Three months, 1/8.

India and Colonies—Per year, 8/8. Six months, 4/4. Three months, 2/2.

- 16 **Aldershot Album, Views of Camp and Town.** (For full particulars see page 39) ... 1 0

ALL GOODS SENT CARRIAGE PAID.

s. d.

Artillery, Practical Gunnery. See page 12.		
17	Aldershot, 1st Army Corps, Standing Orders of	2 0
364	Aldershot, Standing Orders 3rd Infantry Brigade 2nd Div., 1st Army Corps	1 0
394	Aldershot, Standing Orders 2nd Div., 1st Army Corps, 1904	1 0
403	Aldershot, Standing Orders 4th Infantry Brigade, 1st Army Corps	1 0
18	Alphabetical Roll and Descriptive Book. For Company use	1 0
19	*Allowances, Regulations Relative to issue of Army ...	1 0
Arithmetic, Military Examinations in, for Army School Certificates. (See page 11.)		
400	Army Arithmetical Test Cards for 2nd Class Certificates of Education, 600 sums in each packet, with Answers complete, by an Acting Inspector of Army Schools, per set	1 6
Useful to the Schoolmaster, as a text book adapted to meet the requirements of the new Arithmetic Paper for examination purposes. Useful to the Soldier, for working himself up in any sums or section in which he is backward. For enabling him to test himself as to whether he is fit for examination or not. A separate card shows the full marks obtainable for each sum, and the number of marks required for a pass in the different sections of the Arithmetic Paper.		
Army Ordnance Department, Notes on the Formation of Army Ordnance Depots in the Field. See page 19, No. 407.		
Army Forms and Books. See page 38.		
21	*Army Service Corps, Standing Orders for	1 6
22	*Army Service Corps, Regulations for Supply, Transport, and Barrack Services	0 9
23	*Army Service Corps, Supply Handbook	1 6
380	*Army Service Corps, Training, 1903	1 0
ARTILLERY Roll Book and Handbook of General Informa- tion, for Officers and Non-Commissioned Officers—		
24	For Batteries Royal Horse and Field Artillery	1 6
25	For Companies Royal Garrison Artillery	1 6
Strongly Bound in Leather, with Elastic Band, Pencil, etc.		
26	Artillery, Battery or Company, Record of Offences. Ruled, printed, strongly bound, pagged, and indexed ...	6 0
27	Artillery, Horse or Field, Shoeing List and Descriptive Roll per 100	3 0
28	Artillery, Battery or Company, Funds Account Book	6 0
29	Artillery Duty Roster, for Battery or Company Sergeant- Majors; strongly bound	5 0
30	Artillery, Orderly's Weekly Detail Book per doz.	3 0
31	*Artillery, Letters on. By Prince KRAFT ZU HOHENLOHE INGELFINGEN	7 6
32	*Artillery, Field, Training for	1 0
33	*" Garrison " Vol. I.	0 6
34	*" " " Vol. II.	0 6
35	*" " " Vol. III.	1 0
36	*" Siege "	0 9

READ "MILITARY MAIL." EVERY FRIDAY.

GALE & POLDEN, LTD., WELLINGTON WORKS, ALDERSHOT.

- 374 **Artillery, Ranging Block** (Major C. B. LEVITA'S, R.A.), s. d.
for Field Howitzer Batteries. Complete with requisite
Range Tables for 5-in. B.L. Howitzer. Each block consists
of 50 Willesden Waterproof Leaves, and is very handy for
ranging a battery for RANGE and LINE, can be carried on
the belt in a leather case, and is in use in most Field
Howitzer Batteries 1 6
- 37 **Atlas, Military.** Containing 40 coloured maps 2 0
Compiled with special reference to the British Empire for military men and
candidates for First Class Army School Certificate.
- 410 **Auxiliary Officers' Hand-book of General Information**
and **Company Officers' Lecture Book.** By Capt. R. F.
Legge, Prince of Wales' Leinster Regt. Author of "Mainly
About Shooting." 3 6
- 40 **BARRACK ROOMS. USEFUL SHEETS OF INSTRUCTIONS**
FOR HANGING ON BARRACK-ROOM WALLS:—
- No. 1. Extracts from Army Order 65, of 1898, as amended by Army
Orders 78 and 121 of 1898,—**Non-Commissioned Officers' and Men's**
Messing Allowance—Gratuity on Discharge or on Transfer to
the Army Reserve—Hospital Stoppages... Per dozen 3 0
- No. 2. **Questions and Answers on Outpost Duty and Reconnaissance**
... .. Per dozen 2 0
- No. 3. **Scale of Fines for Drunkenness** Per dozen 1 0
- No. 4. **Instructions for the Arrangement of Barrack-rooms,**
... .. Per dozen 2 0
- No. 5. **Instructions for the Treatment of the Apparently**
Drowned Per dozen 3 0
- No. 6. **Instructions in Care and Cleaning of Rifles and Carbines.**
... .. Per dozen 1 0
- No. 7. **Extracts from the King's Regulations and Army Orders,**
for the Guidance of all Non-Commissioned Officers and Men.
... .. Per dozen 2 0
- No. 8. **Semaphore Alphabet and Numeral Signs as used in the**
Army. Fully illustrated with Figures of Men Per dozen 3 0
- No. 9. **Instructions for Packing Valise in Time of Peace and War.**
... .. Per dozen 0 6
- No. 10. **Orders of Dress for Various Parades.** (Applicable to all Arms)
... .. Per dozen 1 0
- No. 11. **Hints to Recruits on Joining** Per dozen 2 0
- No. 12. **Instructions for Cleaning Clothing and Washing Shirts,**
Socks, and Woollen Goods, as approved by the Royal Army Clothing
Department Per dozen 2 0
- No. 13. **REASONS why a SOLDIER should attend an Army School.**
... .. Per dozen 2 0
- No. 14. **SIGNALS,** vide "Infantry Training" Per dozen 2 0
- No. 15. **Diagram of Rifle, Magazine, Lee-Enfield, Mark 1^a.**
An enlargement of Plate 12 of *Musketry Regulations* Per dozen 2 0
- No. 16. **Scouts, Trainers' Course** Per dozen 3 0
- No. 17. **Increase of Soldiers' Emoluments** (Extract from Special Army
Orders, corrected to 1st April, 1904) Per dozen 3 0
- 376 **"WRINKLES" for hanging on walls of Barrack Rooms.**
These are printed in large type on different coloured paper,
to hang up on the bare white walls of barrack rooms.
Being thus constantly before the men's eyes, the little
truths they convey have a better chance of being digested
than if they were repeated in many lectures. Price 1d.
each sheet, or a set of 30—all different 2 0

ALL GOODS SENT CARRIAGE PAID.

GALE & POLDEN, LTD., WELLINGTON WORKS, ALDERSHOT.

- 42 **Battle Formation, Preparatory.** By Maj.-Gen. H. BENGOUGH, s. d.
O.B. With Plates. 2nd Edition (Revised)... 1 0
- 43 **Battle of Spichenen, The.** August 6th, 1870, and the events
that preceded it. A Study in Practical Tactics and War
Training. With numerous coloured maps. By the late Lt.-Col.
G. F. R. HENDERSON, late Professor of Military History,
Staff College ... 6 0
- 44 **Battle of Custoza, The.**
A Tactical Study from the German of His Excellency General VON VERDY
DU VERNOIS, sometime Minister of War, Chief of the Staff of the First Army
Corps, and Professor at the Kriegs Akademie (Staff College) in Berlin.
Translated by the late Lieut.-Col. G. F. R. HENDERSON, late Professor of
Military History, Staff College, Author of "The Campaign of Fredericksburg"
and "The Battle of Spichenen," and Capt. R. A. HENDERSON, Adj't, 3rd Batt.
The Manchester Regiment ... 6 0
- Bed Cards, No. 1 size, 4½ by 3-ins.** Without Crest, per 100 2/6,
200 4/-, 500 8/-; With Crest beautifully Stamped in Relief,
per 100 3/6, 200 5/-, 500 10/-. No. 2 size, 3½ by 2½-ins.
Without Crest, per 100 1/6, 200 2/9, 500 6/-; With Crest,
100 2/6, 200 4/-, 500 8/-. Tin Cases for same: No. 1 size,
11/- per 100; No. 2 size, 10/- per 100.
- 13 **Bisley Camp and District, Map of.** Scale: 3 inches to 1
mile. Prepared for Military requirements with the following
special features:—1. Contour lines and heights printed in
red; 2. Government land boundaries plainly marked;
3. Undulations of country in special colour, showing hills,
etc., in relief; One mile circles radiating from centre of
camp. Printed on Paper ... 2 0
On Linen (Pocket Handkerchief form) ... 3 6
- 47 **Bisley Camp, Photographic Album of.** Upwards of fifty
illustrations of the Camp and competitions in progress.
(For full particulars see page 39) ... 1 0
- 48 **Boxing: The Modern System of Glove Fighting.** By
Capt. W. EDGEWORTH-JOHNSTONE (Royal Irish Regiment),
Assistant Inspector of Gymnasia, Heavy-weight Amateur
Champion of England, 1895 and 1896. A treatise on the
subject as a practical means of self-defence, setting forth
in detail the American Methods of Training and Fighting.
Profusely Illustrated with upwards of 40 full-page
illustrations. The most Complete and Instructive Book
ever issued on the subject ... 2 6
"The book is full of entertaining matter, and should be read by all who take an
interest in Boxing and Athletics. For the beginner it will be found most useful,
and for the veteran it makes pleasant and interesting reading."—*Sportsman*.
- 411 **Body-Building or Man in the Making: How to become
Healthy and Strong** Containing sets of Exercises and
special photos of Mr. Sandow and family. Written by Eugen
Sandow, author of "Strength, and How to Obtain it." ... 1 0
- 49 **Breathing, The Art of,** as applied to Physical Development,
with Respiratory Exercises for Children and Adults. By
Surgeon-Capt. HOPER-DIXON, A.M.S. ... 1 0

ALL ORDERS MUST BE ACCOMPANIED BY A REMITTANCE.

GALE & POLDEN, LTD., WELLINGTON WORKS, ALDERSHOT.

- 50 **British Army, Official Crests of.** In Packets containing 48 s. d.
 Designs. All beautifully executed in various coloured relief.
 Nos. 1 to 20 Packets now ready, others in preparation, each 0 6
 "We have received from Gale & Polden, Ltd., the well-known Military Publishers, Packets of Regimental Crests. They embrace over a thousand varieties, each and all exceedingly well done. We suppose the Dies were primarily executed for the Stamping of Regimental Stationery, but embossed in various colours on separate circles of paper, as these before us, they form useful and interesting presents to collectors of Armorial Insignia."—*Broad Arrow*.
- 51 **British Army, Badges and Honours of the.** In Packets
 containing 48 designs. Handsomely Printed in Gold and
 Colours. Nos. 1 to 10 Packets, now ready, others in
 preparation each 0 6
 "Gale & Polden, Ltd., have just produced an admirably executed set of Badges and Honours of the British Army. They are printed in gold and colours, and are sold in packets of forty-eight designs each. The idea is a happy one, and well carried out by a firm which seems to be as remarkable for its enterprise as for the excellence of its work."—*Army and Navy Gazette*.
- 52 **British Army Medals and Ribbons,** correctly printed in
 colours. In one sheet, size 28" x 16". Folded into a
 handsomely designed cover 2 6
 Can also be supplied flat, suitable for framing, and
 packed in postal tube at same price, or mounted on stout
 board, with eyelets and cord for hanging up. Price 3/6.
- 53 **British Army Crest Album,** containing Honours and Nick-
 names of the Army, with spaces for all Regimental Crests,
 Badges, etc. 5 0
 "The Album is well got up, and is certain to become popular with
 our readers. All will take particular interest in filling up with crests,
 etc., of the various regiments the blanks left for that purpose, and thus
 making a most pleasing collection."—*United Service Gazette*.
- 54 **British Army Official Crests and Badges** in daily use.
 Issued in two sheets, bound in handsome covers, litho-
 graphed in colours 2 6
Sheet I. Crests. Lithographed in various colours, 132
 designs, size, 28" x 18".
Sheet II. Badges. Lithographed in gold and colours,
 108 designs, size 35" x 23".
 Can also be supplied flat, suitable for framing, and packed
 in postal tube at same price, or mounted on stout boards,
 with eyelets and cord for hanging up, 4/6 per pair.
 Separately, 2/- per sheet unmounted; 3/- per sheet mounted.
 "Messrs. Gale & Polden, the well-known military publishers, have brought out
 sheets of Army Crests and Badges, which fold into an artistically designed cover,
 admirably adapted to the warlike tastes and interests so prevalent to-day. They are
 collections of official crests and badges of the regiments in the British Army, com-
 prising 240 different designs, and the result is not merely of value historically but
 very effective from an artistic point of view."—*The Englishman*, Calcutta.
- 55 **Campaign of Fredericksburg, The.** November—December,
 1862. A Tactical Study for Officers. With Maps. By the late
 Lieut.-Col. G. F. R. HENDERSON, late Professor of Military
 History, Staff College. (Used as Text Book at R.M. College) 5 0

ALL GOODS SENT CARRIAGE PAID.

GALE & POLDEN, LTD., WELLINGTON WORKS, ALDERSHOT.

352	Cambridge University, Album of Views of.	(For full particulars see page 39)	s. d.
	... ..	... ..	1 0
57	Canteens, Rules for the Management of	... ..	0 1
	Canteens, Books and Forms.	See page 36.	
401	Canterbury, City of, Album of Views	... ..	1 0
	(For full particulars see page 40).		
58	Case for Free Kit Issue Sheets, made in leather	... ..	7 0
59	" Soldier's Pocket Ledger, without Pocket	... ..	1 0
60	" " " " " Best Leather, with Pocket	... ..	2 0
	Any Soldier can bind his Pocket Ledger in these cases.		
61	" Annual Musketry Return. Made in half Leather	... ..	4 6
62	" Pay and Mess Book, lettered, with Pocket. Leather	... ..	7 0
63	" Pay List, lettered, with Pocket	... ..	7 0
64	" Passes (Army Form B 295)	... ..	1 3
65	" Army Orders	... ..	1 0
66	" Target Register. B 190. Black Waterproof	... ..	2 0
67	" Daily Messing Book	... ..	1 3
68	" " " " " Strongly made, with Leather back	... ..	2 6
69	Case for "Despatches, Documents, etc. For carrying Documents and Forms between Orderly Room and Office; will be found very useful on Parade. Made in Leather, with pocket, strap and buckle. Lettered in gold with crest of Corps and letter of Company	... ..	7 0
70	Case for Defaulters' Sheets, made in Leather, with Thumb Screws, Strap and Buckle, Lettered with Title and Company. Warranted to keep the leaves from falling out. These cases are made large to take all sizes of Defaulter Sheets, and to protect the edges. Will last for 10 years	... ..	10 0
71	Cash Book and Ledger for Squadron, Battery, Troop, or Company. Army Book 69	... ..	7 6
72	*Cavalry Training	... ..	1 0
73	Cavalry, Aids to Equitation. On mtearable linen.	4d. each per doz.	3 0
	Cavalry, Aids to Scouting. See page 1.		
	Cavalry Kit Plates. See page 14.		
74	Cavalry, Questions and Answers on the Theory and Practice of EQUITATION for Squadron Training. By Major J. R. VAN CORTLANDT, 3rd Hussars	... ..	0 9
75	Cavalry, Communicating Drill for. Movements by Fours, Increasing and Diminishing the Front. Compiled from Cavalry Drill, by Maj. J. R. VAN CORTLANDT, 3rd (K.O.) Hrs.	... ..	0 4
77	Cavalry Squadron Roll Book, for pocket, Revised Edition, containing squadron roll, descriptive return of horses, numerical roll of arms and name of soldier in charge, mobilization roll, memoranda, kit plates, and general information useful to squadron commanders	... ..	2 6
	Cavalry Sketching Board, see No. 412, page 26.		

TERMS, DEPOSIT ACCOUNTS, ETC., SEE FRONT PAGE.

GALE & POLDEN, LTD., WELLINGTON WORKS, ALDERSHOT.

- 76 Cavalry, Questions and Answers on Forage, Watering, s. d.
Feeding, and Fitting Saddles. By Major J. FLINT ... 0 9
- 78 Cavalry Outposts, Questions and Answers on. By Major
R. H. MORRISON, 18th Hussars, late Comdt., S. of Lus. for
Aux. Cavalry, with Summary by Major J. R. Van Cortlandt,
3rd Hussars, late Adjutant, Westmoreland and Cumberland
Yeomanry 1 0
- 406 Cavalry, Practical Hints on Scouting and the Care of
Horses, by Lieut.-Colonel J. H. Patterson, D.S.O., late
Commanding 33rd Battalion Imperial Yeomanry. Printed
on untearable card for the pocket 0 3
- 79 Cavalry Scouts and Vedettes, Memoranda for. By Major-
General R. S. S. BADEN-POWELL, O.B., F.R.G.S. (to be
carried inside the head-dress) ... Per Doz. 1s. per 100 7 6
- Cavalry Scouts Trainers' Course. See page 25.
- Cavalry Trumpet Calls, Music and Words. See page 30.
- Cavalry Patrolling in South Africa. See page 21.
- 343 Cavalry, Notes on Care of Horses, Stable Management
(Vide Circular Memo, June, 1901), issued by I.G. of Cavalry. 0 3
- 82 Cavalry, Hints on Stable Management. By Colonel
M. F. RIMINGTON, C.B. (Brig. Genl., 3rd Cavalry Brigade) 1 0
- "A thoroughly useful little Guide which should prove useful alike to military
and civilian horsekeepers, and is a veritable *multum in parva*."—*Broad Arrow*.
- 83 Cavalry, What every Vedette must Know. Printed in
bold type, for hanging on barrack-room walls. Per doz. 2 0
- 84 *Cavalry, Letters on. By Prince KRAFT ZU HOHNLOHE
INGELFINGEN 6 0
- 85 Cavalry Elementary Veterinary Manual for the use of
Officers attending Veterinary Classes. By Surgeon-
Capt. BRUCE SETON, Indian Medical Service (late
15th Bengal Lancers) 2 6
- 86 Clothing Ledger, greatly improved, new and enlarged, suit-
able for Squadrons, Batteries, and Companies, with full
instructions for the guidance of keeping same. Every
care has been taken in its compilation to make it as com-
plete as possible, and it is specially suitable for Cavalry,
Artillery, Infantry, and Departmental Corps ... 5 0
- 88 *Clothing of the Army, Regulations for. Part I. Regular
Forces, 1904 1 0
- 88a* Ditto ditto. Part II, Militia 0 6
- 89 Company Drill Made Easy, with Illustrations and Explana-
tory Notes, and Catechism; also Plan for a Company's
Advanced Guard, in accordance with the latest "Infantry
Training" 1 6
- "Messrs. Gale & Polden, the well-known military publishers, have sent us
several very useful pocket volumes in their 'Military Series.' *Company Drill
Made Easy*, a remarkably clear, simple and direct manual, appears, corresponding
with the present Infantry Training. The catechism on the subject of an advanced
guard is excellent. We heartily commend the book."—*Army and Navy Gazette*.

ALL GOODS SENT CARRIAGE PAID.

GALE & POLDEN, LTD., WELLINGTON WORKS, ALDERSHOT.

	s.	d.
351 *Combined Training. Parts 1. to V.	0	6
351A* Ditto. ditto. Parts VI. to IX.	0	6
341 Company Training Made Easy, containing Lectures, Questions, etc., for training of Regulars and Volunteers. By Capt. H. C. Evans, Adj. 4th V.B. Manchester Regiment, author of "Notes on Writing Orders and Reports in the Field."	2	0
"The book is arranged in the form of lectures, each taking up some important branch of the service, and the idea is that the captain of the company should deliver this to his men before putting them through the work practically in the field. At the end of every lecture are a number of questions which will serve to fix the facts in the men's minds."— <i>Military Mail</i> .		
381 Compounding and Dispensing Made Easy (An Aid for the Promotion Examinations in the subject). For Non-Coms. and Men of the Royal Army Medical Corps. By HAROLD SCOTT, M.B. (London), M.R.C.S. (Eng.), L.R.C.P. (London), Lieutenant, Royal Army Medical Corps	7	6
" . . . It is evident that the author's early training as a teacher has been of the greatest service, the arrangement of the material in the book is excellent, the information is correct, and the whole tone is judicious. A feature of the book is a number of tables which show the source of many of the preparations, and which must tend to greatly facilitate study. We congratulate the author on his work, and we are glad to see that an Officer of the R.A.M.C. has had the good sense to produce such a book; it must prove to be most helpful to those for whom it is intended. . . ."— <i>The Lancet</i> .		
"The Non-Commissioned Officers and Men of the R.A.M.C. owe a debt of gratitude to Lieut. H. Harold Scott, M.B., who has provided them with such an excellent text-book. It has been written as an aid for the promotion examinations in the subjects treated of, and, with the exception of chemistry, contains all the information necessary for these examinations. The work is well systematized throughout, and is quite above the ordinary 'Cram' text-book."— <i>British Medical Journal</i> .		
91 Conventional Signs, as used in Military Topography	0	2
Crests of the British Army. See page 5.		
92 Cricket Scoring Book, The Official. Made of the best paper and containing the amended Rules of the Game. Cloth Bound	2	6
93 *Cyclist Training, 1902	0	2
94 *Defence and Attack of Positions and Localities. By Col. SCHAW. (5th Edition)	3	6
95 Detail Book for Sergeant-Majors (Infantry)	7	6
96 Discipline: Its Reason and Battle Value. By Capt. STEWART-MURRAY, The Gordon Highlanders. Author of "Fire Discipline, its Foundation and Application"	2	0
Door Cards, No. 1 size, $4\frac{1}{2}$ by $3\frac{1}{2}$ -ins. Without Crest, per 100 3/6, 200 5/-, 500 10/-; With Crest, per 100 4/6, 200 6/-, 500 15/-.		
No. 2 size, $4\frac{1}{2}$ by 3-ins. Without Crest, per 100 2/6, 200 4/-, 500 8/-; With Crest, per 100 3/6, 200 5/-, 500 10/-.		
97 *Dress Regulations for the Army (including the Militia)	4	6
98 Drill Certificates for Musketry. Printed on strong paper Per Doz.	0	9

ALL ORDERS MUST BE ACCOMPANIED BY A REMITTANCE.

GALE & POLDEN, LTD., WELLINGTON WORKS, ALDERSHOT.

		s.	d.
99	Drill Card. No. I. for Squad Drill, Physical Training and Skirmishing	0	3
100	" No. II. for Company Organization and Drill	0	3
101	" No. III. for Battalion, Brigade, and Division Drill, Savage Warfare, and Ceremonial	0	3
Above are in accordance with Infantry Training, 1902.			
These cards, having cloth backs, may be carried in the pocket, and are very useful for prompting.			
102	Duke of York's Royal Military School, Chelsea, Souvenir Album of Views. Over 72 illustrations. (For full particulars see page 39)	1	0
	Duty Roster for Royal Artillery. See page 2.		
346	Duty Roster for Sergeant-Majors (Infantry)	10	0
103	Duty Rosters (Infantry) strongly bound	4	0
104	" Sheets Per Doz.	1	6
382	Encampments Made Easy. In accordance with Combined Training and Manual of Military Engineering, together with details of Pitching and Striking Tents and Marquees. Fully Illustrated with 18 Plates	1	0
" This little pamphlet contains extracts from 'Combined Training' and 'Manual of Military Engineering' concerning the formation of camps and all matters connected therewith, together with details of pitching and striking tents and marquees. It is fully illustrated with 18 Plates, and will be found useful by Officers and N.C.O.'s of the Army, Militia, Yeomanry, and Volunteers in carrying out their duties whilst going through manoeuvres or their annual training."— <i>United Service Gazette</i> .			
106	*Engineering, Military Manual of	1	0
	*Engineering, Instructions in Military:—		
107	Part I. Field Defences	1	6
108	" II. Attack of Fortresses	1	3
109	" III. Military Bridges	1	6
110	" IV. Military Mining	1	6
111	" V. Miscellaneous	1	6
112	" VI. Military Railways	4	0
113	*Engineer Services, Regulations for	1	6
114	*Equipment Regulations, Part I.	1	0
115	Eton College, Photographic Album of. (For full particulars see page 39)	1	0
116	Expeditions Method of Calculating Soldiers' Services	0	3
117	Field Training, Catechism on (Infantry). With Illustrations and Explanatory Notes in accordance with the latest Infantry Training. Also Practical Exercises and Examples. Revised and brought up to date by Major S. T. BANNING, 2nd Bn. Royal Munster Fusiliers, p.s.c., late Instructor in Tactics, Military Administration and Law, R.M.C.	2	6
" It is certainly one of the best, if not indeed the very best work of its kind which has seen the light for a long time past. There is not an officer, either of the Regular or Auxiliary Forces, who will not profit largely by a careful study of its pages and find it a reliable help under any circumstances, quite distinct from the annual course of field training."— <i>Broad Arrow</i> .			

ALL GOODS SENT CARRIAGE PAID.

GALE & POLDEN, LTD., WELLINGTON WORKS, ALDERSHOT.

- 118 **Field Training for Company Officers of Militia & s. d.**
Volunteers. A Brief Outline Lecture on, by Col. G. J.
 HAY, C.B., Commanding 3rd Battalion West Yorks Regt. ... 0 6
- 119 **Field Fortification, Notes on the Text-books.** Specially
 arranged for Officers preparing for Promotion Examina-
 tions. Fully illustrated. By Major-Gen. H. D. HUTCHINSON,
 C.S.I., late B.S.C., Assistant Military Secretary for
 Indian Affairs. New Edition ... 4 0
- "In the new edition the book has been brought thoroughly up to date and the subject
 treated from a thoroughly practical point of view. It is specially intended to meet the
 requirements for the new promotion examinations and all other examinations on the
 same subject. The information given is set forth in such plain language that everyone
 equipped with an average share of intelligence cannot fail to qualify in this subject, and
 it will be found quite invaluable. The working portion of the book forms a most useful
 guide for the carrying out of small tactical schemes similar to the one which is worked
 out in full in the book. No one taking up field fortification for any purpose can afford
 to overlook this book, which is far and away the best of its kind published."—*Military Mail.*
- 120 **Field Message Book,** 6½ in. by 4 in. This is a larger size than
 the Field Report Book, and contains Indelible Pencil,
 Pocket with Envelopes for Reports, carbon paper, and is
 strongly bound ... 2 6
 (Strong envelopes for Reports, 6d. per doz., 2/6 per 100.)
- 122 **Field Report Book.** For writing Orders and Reports of
 Reconnaissance and Outpost Duties in the Field, etc. Each
 book contains concise directions, carbon paper for copying
 report in duplicate at one operation. Bound in cloth, with
 Pencil, Pocket and Elastic Band ... 1 0
 Bound in Limp Cloth (only) ... 0 9
- 124 **Field Engineering, Studies in Practical. An Aid to the**
Practical Examination in this Subject. By Lieut.-
 Colonel WILKINSON J. SHAW, p.s.c., M.A., Author of *The*
Elements of Modern Tactics. Illustrated with 10 Plates 4 0
- 125 ***Field Works : Their Technical Construction and**
Tactical Application. By Col. C. E. BRACKENBURY, R.A.
 In two Volumes ... 12 0
- 126 ***Field Engineering, Text-book on.** By Col. S. PHILLIPS. 16 6
- 371 **Field Engineering, Notes. Dimensions and Formulæ.**
 "Aids to Memory Series." Compiled by Capt. E. NASH, R.A. 0 6
- 127 **Fire Engine Drill and Instructions for the Mounting and**
Working of ; including Ladder Drill. By Sergt.-Major W.
 DELMAGE, South Lancashire Regiment ... 0 6
- 128 **Fire Discipline : Its Foundation and Application.** By
 Capt. STEWART-MURRAY, The Gordon Highlanders. Author
 of "Discipline : Its Reason, and Battle Value" ... 2 0
- 129 **Free Gymnastics, and Light Dumb Bell Drill as**
practised at the Gymnasia at Aldershot. By Sgt.-Maj.
 NOAKES, Gymnastic Staff. Fully Illustrated with 49 Plates 1 6

TERMS, DEPOSIT ACCOUNTS, ETC., SEE FRONT PAGE.

GALE & POLDEN, LTD., WELLINGTON WORKS, ALDERSHOT.

393	Freemasonry, A Concise History of. By ROBERT FREKE- GOULD, P.S.G.D., of England, Author of "The History of Freemasonry," "The Four Old Lodges," "The Atholl Lodges," "Military Lodges," etc., etc.	s. d. 10 6
368	Gibraltar, Album of Views of. (For full particulars see page 39)	1 0
357	Greenwich Royal Hospital School, Album of Views of. (For full particulars see page 40)	1 0
	Guide to Promotion for Militia and Volunteer Officers from the Rank of Subaltern to Field Officer. See page 17.	
†	Guide to obtaining a First Class Army School Certificate. Revised and Enlarged. By an Army Schoolmaster. Care- fully compiled in compliance with the New Orders referring to the First Class Certificate :—	
130	GROUP I., Military Arithmetic, Dictation, and Manuscripts ...	1 6
131	GROUP II., English History and Geography ...	2 6
132	†Examinations in Arithmetic, containing the Papers with Answers, Hints, and Solutions, for a First Class Certificate	2 0
133	†Guide to obtaining a Second Class Army School Certificate. By an Army Schoolmaster.	1 6
134	†Examinations in Arithmetic, containing the Papers with Answers, Hints, and Solutions, for a Second Class Certificate	1 0
	Army Arithmetical Test Cards for 2nd Class Certificates of Education. See No. 400, page 2.	
135	†Guide to obtaining a Third Class Army School Certificate. By an Army Schoolmaster. Containing Type Exercises of Extracts from Regimental Orders ...	0 6
136	†Examinations in Arithmetic, containing the Papers with Answers, Hints, and Solutions, for a Third Class Certificate	0 6
137	†Guide to Spelling; or, the Soldier's Spelling Book; includ- ing Technical Terms and Words of Daily use in Army Matters. By an Army Schoolmaster	0 6
138	†Guide to Copying Manuscripts for the Use of Candi- dates for a First Class Certificate of Education, with Key and Hints on Handwriting as taught in ARMY SCHOOLS. PART I.	2 0
359	†Ditto. Ditto. Ditto. PART II., containing a series of 24 original Exercises, including every possible variety of alteration and interpolation that a candidate would be called upon to meet, together with Key	2 0
	† The Director of Military Education in India says :—"I have a high opinion of your BOOKS on MILITARY EDUCATION and consider their educational value marked for the purpose for which they are intended, viz : to assist soldiers to obtain certi- ficates of education, and to qualify them for promotion and for employment in Staff Appointments."	
	Approved by the Director of Army Schools.	
140	Guide to Health, for the use of Soldiers. By Surgeon-Major R. C. EATON, M.S.	1 6

ALL GOODS SENT CARRIAGE PAID.

GALE & POLDEN, LTD., WELLINGTON WORKS, ALDERSHOT.

- 143 †Guide to the Examination for Promotion, for Non-Coms. s. d.
(In the Infantry). Revised in accordance with the
Syllabus contained in King's Regulations and the latest
Infantry Training. Including Questions and Answers.
Lance-Corporal to Corporal, and Corporal to Ser-
geant. In one volume ... 3 6

† This Book has been recommended by the Commander-in-Chief.

- 144 Gymnastics. Tricks and Exercises on the Horizontal
Bar, and how to do them. Upwards of 100 Examples,
with Chart. 2nd Edition. By A. DIMMOCK, Author of
100 Exercises on the Parallel Bars ... 1 0

- 396 Gymnastics. One Hundred Exercises on the Parallel
Bars, and how to do them. With Chart of 50 Illustra-
tions. By A. DIMMOCK ... 1 0

- 372 Gunnery. Practical, In the Lecture Room and in the
Field. A Series of Lectures for the use of all ranks in
the Artillery. By Captain H. T. RUSSELL, R.A., Author of
"The Employment of Artillery in the Field." Fully Illus-
trated ... 2 6

Recommended by Major-General Sir E. T. H. HUTTON, C.B., etc., Com-
manding the Forces, Commonwealth of Australia. For use by all Officers
and Non-Commissioned Officers of the Royal Australian Artillery. It has
also been approved of by the School of Gunnery, N.S. Wales.

"The book is written for the Artillery, but other officers who read it will be able
to understand a great deal of it, and those who study it will certainly gain know-
ledge of the gunners' high scientific trade that will be greatly to their advantage."
United Service Magazine.

- 402 Harrow School Album of Views ... 1 0
(For full particulars see page 40).

Handbook for Auxiliary Officers. See No. 410, page 3.

- 145 Hints to Young Officers. By an ADJUTANT ... 1 0
"From first to last there is really common sense in 'An Adjutant's' hints, and
we have no hesitation in saying that any young officer taking up the book will
not put it down again until he has read it through, it being written in a pleasant
chaty style which should recommend it to those for whose benefit it has been
produced."—*Army and Navy Gazette.*

- 146 †Hints to Young Soldiers. By WILLIAM GORDON, 2nd Batt.
Gordon Highlanders. 3rd Edition. Revised and Enlarged 0 6
"A little budget of sound, good, wholesome advice, in plain language. It would
be well if a copy could be given to every young soldier just starting on his new
career."—*Broad Arrow.*

† This Book has been recommended by the Commander-in-Chief.

Hints for Mounted Infantrymen. See page 17.

- 147 Hints from Baden-Powell. By the Rev. R. L. BELLAMY ... 1 0

- 148 Hints from Sandow. (Revised Edition). By the Rev. R. L.
BELLAMY ... 1 0

ALL ORDERS MUST BE ACCOMPANIED BY A REMITTANCE.

GALE & POLDEN, LTD., WELLINGTON WORKS, ALDERSHOT

- 150 **How to Keep "Fit," or The Soldier's Guide to Health** s. d.
in Field, Camp and Quarters. compiled by Surgeon-
Captain H. WAITE, Volunteer Medical Staff ... 0 3
(Dedicated, with permission, to Maj.-Gen. R. S. S. Baden-Powell, C.B., F.R.G.S.)
- 373 **How to Post and Tell-Off a Picquet**, with Notes and a
short Catechism on Outpost Duty, revised and corrected
up-to-date ... 0 6
- "This is intended as an aid to those who find themselves in command of a picquet, &c., without having had much former experience of this class of work. An officer under such circumstances receives general instructions how to proceed, but there are many points on which he is assailed at the last moment by minor doubts and difficulties, and it is to throw light on these that the book has been written."—*Naval and Military Record*.
- "House" on Sport, The. By Members of the London Stock
Exchange. Edited by W. A. MORGAN. Profusely illustrated
from photographs and drawings.
- 151 Vols. I. ... 5 0
152 " II. ... 5 0
365 "House" Annual, 1902, The ... 5 0
365A " 1903-4, The ... 5 0
- Compiled by W. A. MORGAN. In aid of "The Referee" Children's
Dinner Fund. Illustrated.
- Imperial Yeomanry, Questions and Answers for.** See
No. 404, page 31.
- 153 ***Infantry, Letters on.** By Prince KRAFT ZU HOHENLOHE
INGELFINGEN ... 6 0
- 154 **Infantry Fire Tactics.** By Major C. B. MAYNE.
Enlarged & Revised throughout with Diagrams and Illustrations.
Besides dealing with the question of Infantry fire and how to use it at all
ranges so as to obtain the maximum effect, it also embraces subjects which
have a direct bearing on Infantry fire, such as range finding, supply of
ammunition on the battle-field, influence of ground on effects of fire,
principles of musketry instruction, and the use of the magazine rifle ... 6 0
- "Major MAYNE has done a real good to the Service in giving us a
work which places before us clearly and concisely the whole question."
—*Journal, R. U. S. Institution*.
- 155 **Infantry Training, Catch Questions in.** Thoroughly revised,
rewritten and improved in accordance with latest Infantry
Training, 1902 ... 0 6
- "The idea is capital, and many Non-commissioned Officers and others will
thank the Author for his little book. As he says, the number of questions
might be legion, but he has made an excellent series, the answering of which
will afford a fair criterion as to the knowledge of the new drill. They are very
suggestive."—*Army and Navy Gazette*.
- 156 ***Infantry Training, 1902...** ... 1 0
157 ***Infantry Sword Exercise** ... 0 6
- Infantry Bugle Sounds, MUSIC & WORDS.** See page 30.
- 159 **Inspection Cards used at General's Inspections, Infantry,**
Per Doz. 1 0
- 160 **Inspection Cards used at General's Inspection (Annual),**
for Cavalry, Infantry, and all Corps. The most com-
plete Inspection State compiled ... each 0 6

ALL GOODS SENT CARRIAGE PAID.

GALE & POLDEN, LTD., WELLINGTON WORKS, ALDERSHOT.

161 KIT PLATES—		s. d.
[No. 1. Valise Kit Plate, Illustration showing Kit on Bed (Infantry).	For dozen	1 0
No. 2. Valise Kit Plate, Illustration showing Kit on Bed (Highland).	Per dozen	1 0
[No. 3. Valise Kit Plate, Illustration showing FIELD Kit Laid on Parade (Infantry)	Per dozen	1 0
[No. 4. Valise Kit Plate, Illustration showing Kit on Barrack Room Shelf	Per dozen	1 0
No. 5. Valise Kit Plate, Illustration showing FIELD Kit Laid down on Parade (Highland)	Per dozen	1 0
No. 6. Valise Kit Plate, Militia (Infantry), Kit on Parade.	Per dozen	1 0
No. 7. Valise Kit Plate (Militia), Kit on Bed	Per dozen	1 0
No. 8. Valise Kit Plate (Militia), Kit on Bed, Highland Regiments.	Per dozen	1 0
No. 10. Slade-Wallace Kit Plate, Illustration showing FULL Kit on Bed (Infantry)	Per dozen	1 0
No. 12. Slade-Wallace Kit Plate, Illustration showing FIELD Kit on Bed and Arrangement of Barrack Room Shelf (Infantry).	Per dozen	1 0
[New Pattern Kit Plates, with Coir Bedding. Nos. 1A, 3A, and 4A.	Per dozen	1 0
No. 13. Slade-Wallace Kit Plate, Illustration showing FIELD Kit Laid down on Parade (Infantry)	Per dozen	1 0
No. 14. Cavalry Kit Plate, Arrangement of Shelf	Per dozen	1 0
No. 15. Cavalry Kit Plate, Arrangement of Kit on Bed. Official Pattern.	Per dozen	1 0

Kits for West Africa, Notes on. See page 19.

162 *King's Regulations and Orders for the Army	1 6
392 Life, and How to Live It. By AURETTA ROYS ALDRICH.	
With 13 Illustrations	2 6
375 London, Tower of, Album of Views of. (For full particulars see page 40)	1 0

Mainly About Shooting. See No. 397, page 18.

163 *Map Reading and the Elements of Field Sketching.	
By Lieut.-Col. WILLOUGHBY VERNER, The Rifle Brigade,	
Professor of Military Topography, Royal Military College,	
Camberley. 3rd Edition, revised	2 6

Maps of Aldershot, Woking and Bisley. For full particulars see pages 1 and 4.

369 Malta, Album of Views of. (For full particulars see page 40)	1 0
366 Manœuvre Duties Made Easy, thoroughly Revised in accordance with latest Combined Training, Regulations, etc.	
New Edition	0 6

164 ††Manual of Drill and Physical Exercises. With or without Dumb-bells or Music. By THOMAS CHESTERTON,	
Instructor of Physical Exercises to the London School Board. Carefully illustrated with upwards of 150 Plates.	
With an introduction by CHAS. ROBERTS, F.R.C.S.	3 0

For the use of Teachers in day and evening Schools, Instructors of Physical Exercises, etc., as taught at the Military Gymnasias at home and abroad, also in the London and other Board Schools, Principal Public Schools, Civil Gymnasias, Polytechnic Institutions and Evening Classes throughout the country.

†† This work has been adopted by the London School Board, for use in their Schools; and also by the Director-General of Military Education, for use in all Army Schools. The Authorities at Battersea, Chelsea, Borough Road, and Hammersmith Training Colleges, for Teachers, have also approved and adopted it exclusively for the use of their students.

TERMS, DEPOSIT ACCOUNTS, ETC., SEE FRONT PAGE.

GALE & POLDEN, LTD., WELLINGTON WORKS, ALDERSHOT.

- 165 **Manual of Drill and Wand Exercises**, with or without s. d.
Music, for use in Elementary and Secondary Schools,
Evening Continuation Schools, Gymnastic Classes, Boys'
Brigades, etc. Compiled and arranged by THOS. CHESTERTON,
Instructor of Physical Exercises to the London School Board,
with a preface by Colonel G. M. Fox, Inspector of Army
Gymnasia. Fully illustrated with 37 Plates 1 0
- 166 ***Manual of Military Law** 2 0
- 167 **Maxim Gun, Handbook of, its Mechanism and Drill.**
With Questions and Answers 0 6
"This is another of the many useful little manuals, compact in size and com-
plete in information, which Messrs. Gale & Polden continue to issue. The con-
struction and mechanism of the Maxim are fully explained, with general instruc-
tions as to working and keeping the gun in order. Explanations are given con-
cerning failures that may occur, such as accidental stoppages in the automatic
action, jams or miss-fires, and how to remedy these—also how the gun is to be
moved and worked with cavalry and mounted infantry or with man draught. To
test the correct acquirement of all this information a searching set of questions
and answers is appended. The price of the hand-book is only sixpence."—*Broad
Arrow*.
- 168 ***Medical Corps, Royal Army, Standing Orders for** ... 1 0
- 169 ***Medical Corps, Royal Army, Manual for** 0 9
- 170 ***Medical Services, Royal Army, Regulations for** ... 0 9
**Medical Corps, Royal Army, Compounding and Dispen-
sing Made Easy for Non-Coms. and Men.** See page 8.
- 171 ***Meat Inspection A Guide to, for Regimental Officers...** 1 6
- 172 **Medical Services in War, Notes on.** By Brigade-Surgeon
Lieut.-Col. W. H. McNAMARA, A.M.S. 1 0
- 399 **"Memory."** A simple system of Memory Training by
"DATAS," the man with the marvellous memory, of the
"Palace Theatre, London." Illustrated 1 0
- 173 **Messing Books, Daily.** Army Book 48. 4d. each, or per doz. 3 0
- 174 " " (Appendix A.—Memo. on Messing of
Soldier) " " " " 4d. each, or per doz. 3 0
- 175 **Messing of the Soldier The.** As used at Aldershot. Including
Schedules Illustrative of the new system of Military Cooking 0 6
- 176 **Forms for same:—Appendix A, in Books, 3/- per Dozen.**
Appendix B, per 100, 3/-. Appendix D, per 100, 1/-.
C, " " 2/-. E, " " 3/-.
- 360 **Messing Ingredients required for Sixty Men** (as approved
by School of Cookery, Aldershot). Printed in bold type
on strong paper for nailing on walls of Cookhouses, etc.... 0 6
- Messing Book, Covers For.** See page 6.
- 178 **Military Note and Sketch Book, "The Oxford."**
Containing: Pencil, Compass, Scale, Pocket and
Refill Block of Printed Report Forms. Designed by
Capt. C. J. WILKIE, Oxfordshire Light Infantry 4 0

ALL GOODS SENT CARRIAGE PAID.

GALE & POLDEN, LTD., WELLINGTON WORKS, ALDERSHOT.

- 179 **Military History Questions.** By Lt.-Col. H. M. E. BRUNKER. s. d.
Interleaved with Blank Leaves 2 0
- 180 **Military Law Examiner, The.** Containing the Questions set at Public Examinations in Military Law, from 1890 to 1903, together with the Answers to them. By Lieut.-Col. Sisson C. PRATT, R.A. (retired), Late Professor of Tactics, Administration and Law at the R.M. Academy, and Instructor at the R.M. College. 5th Edition. Revised to Date. 4 6
- 181 ***Military Law : Its Procedure and Practice.** By Lt.-Col. Sisson C. PRATT, R.A. (retired). Revised up to date ... 4 6
- 183 **Military Law Made Easy,** with Appendices of the Examination Papers fully answered, with references to the official books. By Major S. T. BANNING, 2nd Bn. Royal Munster Fusiliers, p.s.c., LL.B. (Lond.), B.A., LL.D. (R.U.I.), of the Middle Temple, Barrister-at-Law, late Instructor in Military Law, R.M.C. 2nd EDITION. REVISED 4 6
- "We have been able to submit this little work to the judgment of an Army tutor, who has for the last twenty years been more especially employed in preparing in Military Law Officers going up for the promotion examinations, and Militia officers' candidates at the Militia Military competitive examinations. He reports to us that it is admirably adapted for the object in view, namely, that of enabling officers to prepare themselves for these examinations, more especially when they are working by themselves. That portion of Military Law necessary for examinations is systematically gone through; a useful series of questions is given on each section, and the papers set at the last three examinations are given fully answered, with references to the official books. By verifying these students will be able, not only to test the accuracy of the answers given, but also to train themselves in the knowledge of what part of our military code deals with any particular point."—*United Service Gazette*.
- 181 **"Military Mail and Volunteer Review."** Every Friday. One Penny. The up-to-date Military Paper. (Written by Soldiers for Soldiers.)
SUBSCRIPTION RATES (POST PAID) :—
United Kingdom—Per year, 6/6; Six months, 3/3; Three months, 1/8.
India and Colonies—Per year, 8/8; Six months, 4/4; Three months, 2/2.
- 185 **Military Lodges: The Apron and the Sword, or Freemasonry under Arms.** Being an account of Lodges in Regiments 5 0
- Concise History of Freemasonry.** See No. 393, page 11.
- 186 **Militia, The.** What it has been and what it is: A Short History. By Capt. W. E. WARDE, 4th Devon Regiment... 0 6
- 187 ***Militia Regulations, 1904** 1 0
- 188 **Militia, The A Plea for Increased Efficiency.** By Major H. S. LEBROU-STEIN, late Second-in-Command, 6th Batt. Rifle Brigade 0 6

ALL ORDERS MUST BE ACCOMPANIED BY A REMITTANCE.

GALE & POLDEN, LTD., WELLINGTON WORKS, ALDERSHOT.

- †189 **Militia and Volunteer Officers, Guide to Promotion for**, s. d.
from the Rank of Subaltern to Field Officer. New
 Edition Revised. By Major S. T. BANNING, 2nd Bn.
 Royal Munster Fusiliers, p.s.c., LL.B. (LOND.); LL.D.
 (R.U.I.); of the Middle Temple, Barrister-at-Law; late
 Instructor in Tactics, Military Administration & Law, R.M.C. 3 6
 "Among the military text-books published by Messrs. Gale & Polden, few are
 more useful in their character than 'The Guide to Promotion' for Militia
 Officers' by Major W. H. P. Plomer, and the 'Volunteer Officers' Guide to
 Promotion,' by Captain G. D'Arcy Evans. These two Guides, thoroughly revised
 by Major S. T. Banning, have now been combined in one volume, and the book in
 its new form is calculated to be even more useful to officers of the Auxiliary Forces
 preparing for their examination than its predecessors."—*Publishers' Circular.*
- †**For Auxiliary Officers' Hand-book**, see No. 410, page 3.
- Militia and Volunteers, Field Training for.** See page 10.
- 190 **Mobilization for War! The South African Field Force!!**
and Home Defence!!! By Col. T. STURMY CAVE, 1st Vol.
 Batt. Hants Regiment, and Capt. LOUIS TEBBUTT, 3rd
 (Cambs.) Vol. Batt. Suffolk Regiment ... 0 6
- 191 **Mounted Infantrymen, Practical Hints for.** By Capt. B.
 L. ANLEY, D.S.O., 2nd Essex Regt., late Adj. 6th Regt. Mtd.
 Infantry (De Lisle's Corps). Illustrated with Six Plates.
 2nd Edition Revised ... 0 6
 "A useful little pamphlet by an Officer who served as Adjutant of a Mounted
 Infantry Corps in South Africa. It purports to confine its scope to information on
 the matter of kits, both of Officers and Men, but contains some very sensible
 remarks on horse management which it would be well if every mounted infantry
 soldier would take to heart. There are some very useful remarks on rough
 sketching."—*Saturday Review*
- 192 ***Mounted Infantry Regulations** ... 0 3
- 193 **Mounted Infantry and Yeomanry, Further Training and**
Employment of. By Major-Gen. H. HALLAM-PARR, C.B.,
 C.M.G. New Revised Edition ... 1 6
 "In the present edition advantage has been taken of the lessons derived, and being
 derived, from the campaign, happily now drawing to a close, to inculcate the neces-
 sity and value of masses of mobile troops, as 'in future the Mounted Infantry man
 will be considered indispensable, and it will probably be found necessary to train a
 hundred men where ten men were, before the war, held to be sufficient.' Keeping
 this end in view, the author deals in a very practical manner with details affecting
 organisation, equipment, and the training and instruction of mounted infantry,
 and his notes offer much valuable help to officers and men likely to form or be
 attached to such an arm. His recommendations have this advantage, that most of
 them have been actually tested on active service."—*Broad Arrow.*
- 390 **Mounted Infantrymen, Notes on.** Illustrated with Plates,
 etc., by Capt. LLEWELLYN SAUNDERSON, the Rifle Brigade 1 0
 This book is compiled from experiences gained by the Author in the late Boer
 War, and is recommended by the Schools of Instruction for Mounted Infantry.
 "The hints given are concisely and simply stated, and include notes on such
 subjects as the duties of an officer, camp duties, tactics, outposts, and peace
 training. The text is adequately illustrated by diagrams."—*Morning Post.*
- 194 ***Musketry Instruction Regs. for Lee-Metford Rifle** 0 9
Musketry for Civilian Rifle Clubs:—
 348 Target Practice Scoring Sheets, per 100 3s., per 1,000 20s.
 349 Waterproof Cases to hold same, for use on Ranges, each 2s.
 350 Membership Tickets, strong cloth cases, 50 @ 2s. 6d. per
 dozen, 100 @ 2s. 3d. per dozen.

ALL GOODS SENT CARRIAGE PAID.

GALE & POLDEN, LTD., WELLINGTON WORKS, ALDERSHOT.

- 397 **Musketry, Mainly About Shooting.** A series of Lectures s. d.
to Regulars, Volunteers, and Members of Civilian Rifle
Clubs. By Captain R. F. LEGGE, Leinster Regt., Adjt.
2nd V.B. L.N. Lancashire Regt. With an Introduction
by Major-General Sir A. E. Turner, K.C.B., late
Inspector-General of Auxiliary Forces ... 1 6
"A book that is likely to become a classic of its kind has just been issued, its
title is 'Mainly about Shooting.' The book is by no means one that appeals to
the Officer alone, it contains much that cannot fail to be of greatest value to
N.C.O.s, and men of every branch of the service . . . We consider that Capt.
Legge has performed a national service in producing this valuable and extremely
well written book . . . the details throughout the book are set forward in
clear and lucid language, and there is nothing in the nature of padding to be found
in its pages . . ."—*Military Mail*.
- 196 **Musketry Instructions in Care and Cleaning of Lee-
Metford Rifle.** Printed in bold type for Barrack-room
wall ... Per Doz. 1 0
- 196A **Musketry Regulations, Plate 12.** Enlarged for barrack
room walls. Diagram of Rifle, Magazine, Lee-Enfield,
Mark 1* ... Per doz. 2 0
- 378 **Musketry, SCORING BOOK** For "Annual Course" for the
Soldier to record each shot he fires ... Per doz. 2 0
- 379 **Musketry, SCORING BOOK** For "Recruits' Course" Per doz. 2 0
These Scoring Books have been compiled and arranged by Major D. Warren,
The Queen's, and are used at the School of Musketry, Hythe.
And they are specially suitable for the purpose mentioned in Para. 99, Army
Order No. 19, January, 1904.
- 378A **Musketry, Scoring Book, MILITIA,** For "Annual
Course" ... Per doz. 2 0
- 379A **Musketry, Scoring Book, MILITIA,** For "Recruits'
Course" ... Per doz. 2 0
- 383 **Musketry, Aids to obtaining a Hythe Musketry Certifi-
cate.** Containing Theory and Powers of the Rifle, together
with Care of Arms, Firing Exercise, Aiming Drill, Fire
Control, Range Finding and Webley Pistol, with Questions
and Answers on the various subjects. Fully Illustrated ... 0 9
- 197 **Musketry, Handbook of Rifle and Carbine Exercises.**
(Applicable to all Arms.) Containing: Rifle Exer-
cises, Bayonet Fighting, Care of Arms and
Ammunition, Firing Exercises, Aiming Exercises,
Fire Control Exercises, Webley Pistol, and also
Practical Questions and Answers. Fully Illustrated... 0 6
- 344 **Musketry, Aiming Card (Christie's Patent).** An aid to
using the sights of the Rifle. Invented by Sergeant-
Instructor P. CHRISTIE, 3rd Bn. East Surrey Regt. ... 0 3
- 384 **Musketry, Guide to Promotion, Subject (D) for Auxiliary
Forces** A series of Questions and Answers on the subjects
for Examination, for Officers of the Auxiliary Forces.
Compiled by Capt. H. P. De la Bere, Royal Scots Fusiliers,
late D.I.M. ... 1 0
- 307 **Musketry, How to Clean the Service Rifle.** In accord-
ance with the latest Musketry Instructions. Printed on
untearable linen for the pocket. Price 8s. per 100, per doz. 1 6
- TERMS, DEPOSIT ACCOUNTS, ETC., SEE FRONT PAGE.

GALE & POLDEN, LTD., WELLINGTON WORKS, ALDERSHOT.

- 198 **Napoleon's War Maxims, with his Social and Political Thoughts.** By Professor L. E. HENRY, B.A., M.R.C.P., University of Cambridge and Oxford Union Society ... 3 6
- 199 **Non-Commissioned Officers for Promotion, Forms for the use of Proceedings of Board of Examination of.** Compiled by an Adjutant ... per doz. 1 0
- Non-Commissioned Officers' Guide to Promotion.** See No. 143, Page 12.
- Notes on Strategy and Military History.** See No. 398, p. 28.
- 362 **Notes on Kit for West Africa.** Compiled by Capt. H. A. THORNE, West African Regiment ... 0 6
- "We can scarcely conceive a more handy form and size for this useful companion to military or other travellers in West Africa; and the compiler is quite justified in his assertion that 'if the new-comer to West Africa provides himself with all the Articles mentioned in this pamphlet, he will find that very few things have been omitted, which a long experience of the Coast has proved to be necessary.'"—*Anglo-African Argus & Gold Coast Globe.*
- 338 **Notes on Writing Orders and Reports in the Field.** By Capt. H. C. EVANS, Adj't., 4th V.B. Manchester Regiment, author of "Company Training Made Easy" ... 2 0
- "A work which in the absence of any detailed official instructions as to the framing, wording, etc., of manœuvre orders, will be found very useful."
- "The matter treated of is gone into greater detail than any other book we know of treating of the subject."—*United Service Gazette.*
- 407 **Notes on the Formation of Army Ordnance Depots in the Field,** by Major A. S. Palmer, A.O. Dept. ... 2 0
- 355 ***Notes on the Reading of Contorted Maps.** By Colonel C. J. RUSSELL, R.E. (Retd.) ... 2 0
- 200 **Note Paper and Envelopes, with Regimental Crest stamped in Relief, 5 Quires Note and 100 Square Envelopes** ... 6 6
- (We have every Regimental Die in Stock.)
- 201 **Note Book, the Army—**
- No. 1.—4-in. by 2-in. in Cloth, 6d. Leather ... 0 9
- " 2.—5-in. by 3-in. " 9d. " ... 1 0
- " 3.—5½-in. by 3½-in. " 1/- " ... 1 6
- 202 **Nicknames in the Army.** Nearly every Regiment in the Service has (or has had) a Nickname, and this little book gives the most complete record of the same ever printed... 1 0
- †204 **Officers' Pocket-Book for Peace and War, an Aide Memoire for Field Days and Manœuvres.** By Capt. W. PLOMER, Royal Irish Fusiliers, Instructor, R. M. College, Camberley. Bound in limp and flexible Khaki cover ... 5 0
- 205 **Refills of Field Message Forms for same, each** ... 0 6
- "There are already a number of 'Officers' Pocket Books' in existence; many of them have the serious defect of being far too big and bulky for any ordinary pocket. . . . Capt. Plomer's book labours under neither of these defects . . . it is as complete as such a book can well be. We say this not from a mere inspection, but after having tested it by actual use, during a fortnight's hard work in the field. . . . All the information has been brought up to date, and altogether the book is one of the most helpful we have ever seen."
- Daily Chronicle.*
- †**For Auxiliary Officers' Hand-book, see No. 410, page 3.**

ALL GOODS SENT CARRIAGE PAID.

GALE & POLDEN, LTD., WELLINGTON WORKS, ALDERSHOT.

- 203 **Officers' Guide to Campaigning Equipment ; How, Where, s. d.**
and What to obtain. By Capt. DUDLEY SEAGRIM, R.A. 2 6
- Officers' Mess Account Books, etc.** See page 33.
- 206 **Official Letter Writing, Orders, etc., Guide to, by an Army**
Schoolmaster. 3rd Edition 1 6
- "A most useful work for young Officers and Non-commissioned Officers of all branches of the service. In this work are compressed concise, yet full directions, not only upon Official Letter Writing and Orders, but also upon Handwriting, Style of Composition, Punctuation, Précis Writing, Military Abbreviations and Relative Rank, together with such business terms as are, or may be, applicable to Military life. To those whose duties require an acquaintance with clerical work of any kind it can be confidently recommended."—*Army and Navy Gazette*.
- 207 **On Guard ; What to do and How to do it. 11th Edition.**
By Colonel QUAYLE-JONES, C.B. 0 6
- "A useful little hand-book, the very thing that the young and inexperienced stand in need of, arranged by Colonel M. QUAYLE-JONES, Royal Warwickshire Regt., has been forwarded to us for notice. A more concise and better guide could not have been compiled. Every officer will remember the fear and tremor in which he stood when the startling cry of 'Guard turn out!' first broke upon his ear, and will, although smiling at the recollection, reflect to himself that the instructions contained in the King's Regulations and on the board of orders of the guard-rooms, were not altogether of an explicit and satisfactory nature. Col. QUAYLE-JONES has remedied this defect."—*Army and Navy Gazette*.
- 208 **On Guard Writing Companion, made in leather, fitted with**
pocket to hold Army Forms and Foolscap, Penholder, Pens
and Pencils 2 6
- For compactness, finish and strength, it is very ingenious. It can be put in a valise, or folded up with the great-coat. For Non-Commissioned Officers on guard, in the field, or on board ship, it will be found invaluable.
- 209 **On Outpost ; What to do and How to do it ; With**
Questions and Answers. In accordance with Com-
bined Training, 1902 0 6
- "Never have we met with a more clever little work on Outpost Duty."—*Broad Arrow*.
- Order Books, Army Books 127, 129, & 137.** See page 38.
- 210 **Orderly-Sergeant's Detail Book, and Company Duty**
Roster, to last twelve months, for 80 to 200 men.
Contents :—Duty Roster, Furloughs, Standing Passes,
Defaulters, Daily Detail and Memoranda 5 0
- 361 **Orderly Sergeant's Daily Detail Roster Sheets.** For
hanging in Barrack Rooms. Ruled and printed for
Names, Duties and Hour of Parade, suitable for all
Branches of the Service. Per 100, 2s. 6d.; over 1000 18 0
- Orderly's Weekly Detail Book for R.A.** See page 2.
- 211 **Organization and Tactical Use of Cavalry, Artillery and**
Infantry. By Col. C. LACON HARVEY, A.A.G., Oudh Dist. 1 6

TERMS, DEPOSIT ACCOUNTS, ETC., SEE FRONT PAGE.

s. d.

212 Organization and Equipment Made Easy. 4th Edition. Revised.

With appendix of Examination Papers fully answered, with references to the Official Books. By Major S. T. BANNING, 1st Bn. Royal Munster Fusiliers; *p.s.c.*, LL.B. (Lond.), B.A., LL.D. (R.U.I.); of the Middle Temple, Barrister-at-Law; late Instructor in Military Administration, R.M.C. ... 4 6

"This useful work has been compiled by the author with a view to presenting to officers, in a handy form, the necessary information to enable them to pass the examination for promotion in subject 'G,' and he has succeeded admirably in his object. In nearly every case a reference for every statement in the book has been given, either to an official work or to a recognised text-book, so that the reader is able to verify the facts for himself, and at the same time become acquainted with the regulations on the subject. At the end of each chapter questions and answers are given on the subject matter, and the appendix contains examination papers for promotion in Subject 'G.' The author shows a thorough acquaintance with his subject; and the book should prove most valuable to all officers, and of great interest to officers of volunteers who wish to get an insight into our Military system."—*Royal United Service Institution Journal*.

358 Oxford University. Album of Views of. For full Particulars see Page 40

...	1	0
-----	-----	-----	-----	---	---

213 Passes (W.O. Pattern), per 100, 6d. ...	per 1,000	4	0
---	-----------	---	---

214 " Permanent, Cloth bound, will last for years per Doz.	3	0
--	---	---

For full particulars of Permanent Passes in accordance with G.O. see page 36.

215 Passes, Application for "Soldiers' Furlough" Ticket, in Books of 100. Army Form B 295A. ...	1	0
---	---	---

216 " Application for Warrant Officers' Short Leave Ticket ...	per Book	1	0
--	----------	---	---

217 " Soldiers' Wives and Families, Army Hospital Nurses, or for Army Schoolmistresses proceeding on Furlough. Army Form B 295B, in Books of 100...	1	0
---	---	---

218 Patrolling in South Africa, with Hints on Training Scouts at Home. By Capt. C. F. VANDER BYL, 16th Lancers, author of "Practical Military Sketching." Fully illustrated with plates ...	1	0
---	---	---

219 Pay-Sergeant's Complete Account Book, to last 12 months, for 80 to 200 men. Arranged for Home and Foreign Service. The Pay-Sergeant's Complete Account Book has been arranged with a view to assisting Pay-Sergeants in keeping all the information necessary for filling in their Pay Lists, and other useful information connected with their company. Bound in Leather. New and Revised Edition	7	6
--	---	---

220 Pencils, Coloured, for Surveying, Red, Blue, Green, Burnt Sienna, and Yellow, 3d. each ...	Per Doz.	2	6
--	----------	---	---

Specialty manufactured for Military Sketching.

Physical Training. By Sandow. See page 28.

222 Physical Training Without Arms. Illustrated with 26 Plates. 3rd Edition, 9d. Bound in Cloth...	1	0
--	---	---

"Physical Training Without Arms, Made Easy, with its numerous and rich plates, and costing but a shilling, ought to be in the hands, not only of military men, but all schoolmasters." "It is a most useful, handy, and interesting volume." "Its hints and directions are invaluable."—*Aldershot News*.

ALL GOODS SENT CARRIAGE PAID.

GALE & POLDEN, LTD., WELLINGTON WORKS, ALDERSHOT.

- 223 **Physical Training, The Army Handbook of**, in accordance with Infantry Training, 1902, fully illustrated with plates, containing LEG EXERCISES, FREE GYMNASTICS, EXERCISES WITH DUMMY RIFLES, PHYSICAL DRILL WITH ARMS, BAYONET FIGHTING, DUMB-BELL EXERCISES, JUMPING, HORIZONTAL BAR, PARALLEL BARS, ROPE CLIMBING, SWEDISH VAULTING HORSE, ETC. ... 1 0
 "It ought to be in every gymnasium and school-of-arms. An excellent feature of it is that the various positions are illustrated, not by sketches, but by actual photographs of trained men in the proper position. These are alone worth more than the shilling, which is the price of the book, and it is the best possible help both to instructor and pupil."—*Daily Chronicle*.
- 224 **Physical Education in Elementary Schools, the Theory of**. By THOMAS CHESTERTON, Instructor in Physical Exercises to the London School Board, with a preface by Col. G. M. ONSTLOW, late Inspector of Military Gymnasias in Great Britain. Revised Edition, Illustrated with Plates... 3 0
- 225 **Physical Drill With Arms, Made Easy, and New Bayonet Fighting**. Fully illustrated, in accordance with latest Infantry Training, 1902, and corrected up to date. Paper Covers, 9d. ... Bound in Cloth 1 0
 "An invaluable little book, for, thanks to the admirably drawn plates, it will be of great use to the thousands of desk-workers who can get no such training as that of the soldier, and for whose health it is at least as necessary."—*United Service Gazette*.
- 342 **Physical Culture and Self-Defense**. By ROBERT FITZSIMMONS, champion middle-weight fighter of the world; champion heavy-weight fighter of the world 1897-1899; instructor and lecturer on physical culture, etc., etc., with an introduction by A. J. Drexel Biddle, F.R.G.S., F.R.M.S., F.G.S.A., etc. Illustrations from poses by Robert Fitzsimmons and George Dawson, physical instructor of the Chicago Athletic Club ... 5 0
- Pictorial Postcards. See page 41.
- 226 **Potters' Club, The**. A Cycling Novel by LACY HILLIER, author of "The Art of Ease in Cycling," etc., etc. Being a record of certain Proceedings of the Potters' Cycling Club, and the Adventures of its Members, with some passages in the life of Theodore Iden, Financier. Illustrated from Photographs and Drawings by Starr Wood ... 3 6
- Practical Hints for Mounted Infantrymen**. See page 17.
- Practical Gunnery**, fully illustrated, see page 12.
- 228 **Protractors for Surveying**. Compiled in accordance with the latest Manual of Field Sketching and Reconnaissance. Boxwood 2 6
- Reading Cases for Books and Magazines**. See page 34.

ALL ORDERS MUST BE ACCOMPANIED BY A REMITTANCE.

GALE & POLDEN, LTD., WELLINGTON WORKS, ALDERSHOT.

- 220 **Records and Badges of every Regiment and Corps in the British Army.** With Twenty-four Coloured Plates of Colours and Uniforms, and Two Hundred and Thirty Illustrations of the Badges and other Distinctions in the Text. By HENRY MANNERS CHICHESTER, late 85th Regiment, and GEORGE BURGESS-SHORT, late Major 3rd Battalion The Manchester Regiment. Handsomely bound, Revised edition ... 10 6
Recreation Rooms and Libraries, Books, etc., for. See pages 34 and 35.
- 226 **Register of Record of Offences for Squadron, Battery, or Company.** Ruled, printed, strongly bound, pagged and indexed ... 6 0
- 230 **Regimental Duties Made Easy. 2nd Edition.** Revised to date. Subject "A" for the Promotion Examinations, with references to the Official Books. By Major S. T. BANNING, 2nd Bn. Royal Munster Fusiliers, p.s.c., LL.B., (Lond.); B.A., LL.D. (R.U.I.); of the Middle Temple, Barrister-at-Law; late Instructor in Military Administration, R.M.C.
PART I.—Warrant and Non-Commissioned Officers to Second-Lieutenant; Second-Lieutenants, Quarter-Masters, and Riding-Masters to Lieutenant.—**PART II.** Captain to Major. In one Volume ... 5 0
 "A handy and complete guide to subject "A" for the Promotion Examination. The arrangement of the contents follows exactly the syllabus laid down for the examination in this subject. Its use will obviate the necessity of reference not only to the King's Regulations, which every officer may be assumed to have always at hand, but also to instructions contained in Army Forms, Books of Regulations, and Text Books dealing with the subject. It will therefore be found very useful and labour saving by all who are preparing for examination. Questions are also added at the end of most of the sections, by means of which officers can test their knowledge. The volume before us is the *Second Edition* of the book, and it appears to have been extensively revised and brought well up to date. —*United Service Gazette*.
- 231 **Regimental Rhymes and other Verses.** By KENTISH RAG 1 0
 "The verses dealing with Military subjects are stirring in tone, and would obtain a wide popularity at Soldiers' Concerts, if set to appropriate music."—*Morning Post of India*.
- 232 **Regimental Marches.** We have published the Regimental March of several regiments, with the crest and motto, etc., on the cover. The following are now ready:—
Goldstream Guards, Royal Engineers, Royal Marines, Royal Berkshire Regt., and Royal Warwickshire Regt. ... each 1 6
- 233 **Road Reports, printed, and ruled.** 3d. each, or per dozen... 2 0
- 234 **Rhymes from the Ranks.** By Qr.-Mr.-Sergt. H. MOREY (late 2nd Batt. The Royal Irish Rifles) ... 1 0
 "To the Army, in which I spent the best years of my life, this little book is, with all its defects, most respectfully dedicated by the Author." Many of the Rhymes are of considerable merit, and will be popular in the Ranks, for whom they have been principally written."—*Irish Times*.

ALL GOODS SENT CARRIAGE PAID.

GALE & POLDEN, LTD., WELLINGTON WORKS, ALDERSHOT.

	Roll Book for Pocket (Squadron)—Cavalry. See page 6.	s. d.
	" " " " Royal Artillery. See page 2.	
235	" " " " (Company)—Infantry	1 0
236	" " " " (Section) " " " " " " " "	0 6
	" " " " (Company)—Volunteer. See page 30.	
	" " " " (Section)—Volunteer. See page 30.	
	"Royal Artillery, Books and Forms. See pages 2 and 3.	
238	*Royal Warrant for Pay and Promotion	1 0
239	Running Recollections: and How to Train. Being an Autobiography of A. K. Downer, Champion Sprinter of the World, and short biographical sketches of E. C. Bredin (with his ideas on training), Len Hurst, Fred Bacon, George Blenner-Hasset Tindler, with method of training in the early part of the past century, and notes on training for Boys	2 6
240	Sandhurst, Royal Military College, Staff College, Yorktown, and Camberley, Photographic Album of. (For full particulars see page 40)	1 0
340	Scouts' Alphabet of Notes and Queries. By a "Cyclist Commander." Suitable for the pocket, size 3in. by 2in. ... 1 0 <i>"The Scouts' Alphabet of Notes and Queries is distinctly useful. It is in short a pocket dictionary of military difficulties of an elementary nature from which the scout obtains hints or refreshes his memory as to the nature of reports required and how to get at the required information. For example, having come to a river, the would-be scout turns to the word "River" and finds not only that he is required to report, amongst other particulars, the breadth of the obstacle, but also that the little book in his pocket tells him how to perform the needful measurement."</i> — <i>United Service Magazine</i> .	
	Scouting, Aids to. See page 1.	
385	Scouts Trainer's Course. Compiled by Major W. W. Cordeaux, 21st (Empress of India's) Lancers. Printed in large type for hanging in Barrack Rooms. Per dozen	3 0
242	Sergeants' Pocket Book for Home and Foreign Service. Compiled by the late Sergt.-Major W. Gordon, 2nd Scots Guards. Revised and corrected up to date by Capt. W. PLOMER, Royal Irish Fusiliers	2 6
	<i>"This book was originally written to supply a need greatly felt by non-commissioned officers, and especially by sergeants, of a pocket memorandum book of simple and easy reference to their various duties. So cordial was the reception the book met with that a second edition was called for, and this has been prepared in a new and revised form by Captain Plomer. As the author rightly remarks, 'an increased responsibility has been thrown on non-commissioned officers by the decentralisation made necessary by modern war, both in field and camp,' and it is to assist them in the varying circumstances in which they may often be placed that this work has been brought up to date and re-issued. For this purpose it is well adapted, containing, as it does, a mass of useful information carefully arranged."</i> — <i>United Service Gazette</i> .	
	Sergeants' Mess Books, etc. See page 32.	
	Sergeant-Major's Detail Book. See page 8.	
	" " " " Duty Roster. See page 9.	
243	Service Sketching Case and Note-Book, Field. By Lieut. W. W. NORMAN, R.S.C. Complete with Compass	10 0
244	Without Compass	6 6

ALL ORDERS MUST BE ACCOMPANIED BY A REMITTANCE.

GALE & POLDEN, LTD., WELLINGTON WORKS, ALDERSHOT

- 408 Shooting, "The Wellington" Wind Chart for Rifle s. d.
Shooting, with Diagrams and Instructions. Printed
on untearable card ... 0 3
- Shooting, Mainly About. See No. 397, page 18.
- 245 Shooting (Rifle) Made Easy. Specially compiled for
Members of CIVILIAN RIFLE CLUBS. Fully illustrated ... 0 6
- CONTENTS:—The Rifle and its Sights; The Care of the Rifle; Taking Aim
and Rules for Aiming; Pressing the Trigger and Loading; Targets; On the
Range; Bull's-Eye Shooting; and Valuable Hints on Shooting, Scoring, Signalling,
and Trajectory.
- "It is a most useful Book of Instruction for would-be rifle shots, and is one which
should be in the hands of both Volunteers and members of all rifle clubs."—
Bury Guardian.
- 246 Shooting Score Register, for three distances for Shooting
Matches, in Black Waterproof ... 3 6
- 241 Shooting Scoring Book, Gale & Polden's New Improved
Rifle Shots Register, with latest Targets. Compiled
for Match Shooting, and for recording the results of Annual
Course. New and Revised Edition with WIND ALLOW-
ANCE CHART, and Flags for judging strength of Wind.
Cloth, ... 1 0
- A decided improvement on the ordinary scoring book, giving, besides the usual
hints on shooting, very elaborate diagrams. It is divided into three parts,
short distance matches, long distance matches, and the annual course.
- 247 Sights for Wind-Gauging. Supplied with Red, White, Blue,
or Green Sight Lines ... per 100 0 4
- 248 *Signalling Regulations (Army) ... 0 9
- 405 Signallers' Flag, The. Printed on untearable linen. Con-
taining a mass of information on the practical part of
signalling messages, etc., in accordance with the latest
Regulations. Can be carried folded in the pocket, and is
easily adjusted and fitted to any pole, stick, or cane ... 2 0
- This Flag forms the most handy means of reference which a Signaller can possess.*
- 249 Signalling, Army, Notes On. A handbook of reference for
Signallers. By a Signalling Instructor, in accordance
with Signalling Regulations, 1904. Each 0 4
Per dozen 3 0
- 250 Signalling, Semaphore Alphabet and Numeral Signs;
On Paper, 4d. each. Per dozen 3 0
Mounted on Linen, folded in Cloth Case for pocket. Each 1 0
Mounted on Board and Varnished ... Each 2 0
- 413 Signalling, The Semaphore Simplified, "or How to learn
it in a Few Hours," by means of a pack of 30 Cards
printed with Figures of Men, Flags, etc., from Photographs
specially taken, and the alphabetical letter on back of each,
complete with "Booklet" of full instructions. By a
SIGNALLING INSTRUCTOR ... Per set 0 6

ALL GOODS SENT CARRIAGE PAID.

GALE & POLDEN, LTD., WELLINGTON WORKS, ALDERSTREET.

251	Signalling, Army Telegraphs and Signals Message s. d. Forms. Army Form C2121 (i) In Books	2	0
252	Signalling Test Message Cards, Army Per Doz.	0	9
253	Signalling Scribbling Book. Army Book 119c.	2	0
254	Signalling, Morse Diagrams, Army. A simple method of learning the Morse Code. By A. R. WILLIS	1	0
255	Sketching for Non-Coms. & Men, Military. Fully Illus- trated	0	6
"This little book has been written as a help to those non-commissioned officers who are likely to have sketches to make. They merely contain a few notes on the most elementary sketching, and at the same time everything that should be required to complete a sketch is explained."— <i>United Service Gazette</i> .			
256	Sketching, Practical Military. By Capt. O. F. VANDER BYL, 16th Lancers. Fully Illustrated with Coloured Plates and Diagrams	3	6
"The tendency now-a-days is to exclude from military text books everything that it is unnecessary to teach, and in this respect the author of this manual on sketching is to be congratulated, as well as on the general excellence of his work, which contains instruction in everything necessary to military sketching, pure and simple, and avoids all superfluity and overwash. The style is so simple that the book is particularly to be recommended for the instruction of classes of Non-Com. Officers."— <i>Civil and Military Gazette</i> .			
257	Sketching Companion, Field (Registered), containing a Service Protractor; pencils, hard, soft, medium, red, blue, green, sepia; drawing stamp; scale of shade, and pointed India rubber, in compact leather case, each	6	0
258	Do. do. (not fitted)	1	6
259	Sketching Book, Field, ruled in squares	0	6
412	*Sketching, Improved Field Surveying or Cavalry Sketching Board (Patent No. 13,568). Complete with Compass, Leather Strap for wrist, etc., etc. (specially manufactured for us for Military use)	30	0
260	Sketching Case, The Picquet, complete with Printed and Ruled Sketching Pad, with detail of the Picquet on back, Pocket, Pencil and Rule with Scales Gms. and Gms. to a mile. Designed by Capt. W. S. CARRY, 2nd West Yorkshire Regt.	3	6
261	Refills Sketching Pad for same each	0	6
262	Sketching Case, Field. Size 11-in. by 11-in. Made in strong Waterproof Leather, with pocket for Drawing Paper, Pencils, Protractor, &c.	2	6
263	Do. do. Size 11 in. by 13 in. do. do.	3	6
264	Sketching Made Easy and Military Maps Explained. By Major-General H. D. HUTCHINSON, C.S.I., late B.S.C., specially written and arranged for Officers preparing for examinations, and used at the Staff College; School of Military Engineering, Chatham; Royal Military College, Canada; etc., etc. 5th Edition. Revised throughout	4	0

READ "MILITARY MAIL." EVERY FRIDAY.

- 265 **Sketching, Military, Key to Maj.-General Hutchinson's Military Sketching Made Easy.** Compiled by Capt. L. J. SHADWELL, *p.s.c.*, Suffolk Regt., *D.A.A.G. for Instruction, Kasauli.* Fully Illustrated, with 77 coloured Plates and Diagrams, containing the Answers to the Questions for Practice in Military Sketching Made Easy ... 4 0
- 391 ***Sketching and Reconnaissance. Manual of Field, 1903.** 1 6
- 395 **Service Pay for the Soldier, Explanatory Notes of Issue, etc.,** *vide* Special Army Orders, Corrected to 1st April, 1904. Compiled by an Adjutant. 2d. each, 1/6 per doz., 8/- per 100.
 "The author of this little book has compiled a very useful work which puts all the regulations respecting Service Pay in a clear straightforward way and enables the private soldier or would-be recruit to clearly understand the official Regulations on this subject. We hope the pamphlet will fall into the hands of many of the unemployed who, perhaps, are ignorant of how vastly increased the Soldier's Pay now is, and this would, no doubt, thereby improve our recruiting considerably."—*Military Mail.*
- 266 **"Skirmishing," Aids to, with Questions and Answers.** Illustrated. In accordance with Infantry Training, 1902 0 6
- 267 **Slade-Wallace Equipment, Guide to Fitting the.** Illustrated with 12 plates. As worn on the Field, laid out on Parade and in the Barrack Room, as approved at Aldershot 0 6
- Soldiers' Guide to Health, How to Keep "Fit," etc.**
See page 13.
- 268 **Soldier's Health, The, and How to Preserve it.** By Surgeon-Capt. J. R. FORREST, *A.M.S.* ... 0 6
 Dedicated, with permission, to FIELD MARSHAL LORD ROBERTS, *V.C.*, &c.
- 363 **†Soldier's Pocket Manual of useful information.** By Major S. T. BANNING, 2nd Bn. Royal Munster Fusiliers, *p.s.c.* 0 9
 "During my service of nearly a quarter of a century it has often occurred to me that a handy little booklet, which would give a man hints as to points connected with his duties both in the field and in quarters, together with information as to the various pay and allowances to which he is entitled, and assist him to self advancement, would be welcomed by the soldier. It is with a view to giving this information that I have compiled this small manual in the hope that my comrades in the ranks will find it useful."—*Author's Preface.*
 † *This Book has been recommended by the Commander-in-Chief.*
- 269 **Soldiers' Training and Other Notes.** By Major H. DE B. HOVELL, The Worcestershire Regiment, author of "Soldiers' Shooting," etc. This book is bound in "Stohwinter" invisible cloth, adapted for the soldier's manoeuvre uniforms 2 0
- 270 **Soldier's Table Card, The.** Revised in accordance with latest Army School Regulations. Giving the Tables, etc., necessary for an Army School Certificate ... 0 1
- 271 **Sport in India and Somali Land, with Hints to Young Shikaries.** By Surgeon-Captain J. S. EDEY, Army Medical Staff. With twenty-three illustrations, Bound Cloth, Gilt Lettered ... 6 0

ALL GOODS SENT CARRIAGE PAID.

GALE & POLDEN, LTD., WELLINGTON WORKS, ALDERSHOT.

- 398 **Strategy and Military History, Notes on.** For Promotion s. u
Examinations, Militia Entrance, Volunteer Classes, etc.,
by Captain H. T. RUSSELL, R.F.A., Author of "Employ-
ment of Artillery" and "Practical Gunners" ... 4 0

"It will be found most useful and helpful to beginners, Militia candidates for commissions, and also to Officers of every branch of the Service. The work is compiled from the leading British, French and German writers, and the arrangement is most simple. No maps or diagrams are in the text, and endeavours have also been made to seize upon the points which examiners are likely to use. The book contains blank paper at the end, so that the student may jot down 'instances' illustrating the 'principles' dealt with, and generally supplement the examples given. We know of no other minor treatise on this subject, and to Volunteer officers who are likely to compete at the Regular Promotion Examinations it should be found of the greatest value. A cheap atlas should be with the book to save diagrams, etc. We predict a wide sale for this, and can heartily recommend it for the purpose it is written."—*Military Mail*.

- 272 **†Strength: And How to Obtain it.** By SANDOW; with
Anatomical Chart showing the Exercises for Physical
Development of Men, Women and Children. REVISED
EDITION. Fully Illustrated ... 2 6

SANDOW: A STUDY IN THE PERFECT TYPE OF THE HUMAN FORM, the Marvel of Anatomists, Sculptors and Artists in the Nude. The work embraces the renowned athlete's simple method of Physical Culture for the Home, the Gymnasium, and the Training School, including a Biography dealing with the chief incidents of Mr. Sandow's Professional Career, his Phenomenal Prowess and Gladiatorial Skill in Competitive Matches, Contests, and Exhibitions; with Mr. Sandow's System of Dumb-bell Exercises for Physical Development, each Exercise being separately illustrated on the Anatomical Chart, which is so arranged that the Student can remove the Chart from the book and fix so as to see the illustration of the exercise being practised.

†**Body Building, by Sandow.** See No. 411, page 4.

- 409 ***Stretcher Drill** (Illustrated). 2nd Edition. Including the
New Hand-seat Wagon and Railway Wagon Drills,
compiled from the official text books, by MAJOR J. J. de
ZUCHE MARSHALL, R.A.M.C. Vols. (p.s.), Comdg. E.
Surrey Vol. Inf. Bde. Bearer Coy., Army Medical Re-
serve of Officers; Ambulance Instr. London Metro-
politan Police. ... 3 0

"The book, which has long been known among the auxiliary forces as a standard work, is compiled chiefly from the Manual of the R.A.M.C. (1903) and Regulations of the R.A.M. Services, &c., and is an entirely creditable production. We can readily understand the value of this book to all employed in the Medical Service, for it contains in its pages a perfect mass of useful information of precisely that nature which is not otherwise very readily available. The diagrams which are scattered through the book add greatly to its value, and are remarkably clear and comprehensive. It is really an admirable little work, and one deserving of all praise and encouragement."—*Military Mail*.

- 273 **Stylograph Pen, The "Wellington."** Warranted a Perfect
Writing Instrument. In Polished Vulcanite. With large
Reservoir for Ink. Ready for instant use, without adjust-
ment. Boxed with Filler and Cleaner complete ... 4 0

***Sword Exercise (Infantry)** See page 13.

- 347 ***Tactical Fitness for Command for Majors.** Notes and
Schemes for Examinations, with Maps and Notes from the
Boer War, by MAJOR S. C. GOUGH, 5th Bengal Cavalry, I.S.C. 7 0

ALL ORDERS MUST BE ACCOMPANIED BY A REMITTANCE.

GALE & POLDEN, LTD., WELLINGTON WORKS, ALDERSHOT.

275	<i>Tactics, Questions and Answers on, with Diagrams for Military Competitive Examinations, Examinations for Promotions, &c.</i> By Capt. J. DEMANGEL, B.Sc., B.A., London. 10th Edition	s. d.	6	0
276	<i>Tactics, Applied, for Examination Purposes. A Supplement to "Questions and Answers on Tactics."</i> By Capt. J. DEMANGEL	4	0	
277	<i>Tactics, Minor, for Non-Coms. and Men. A Series of Lectures delivered to Volunteers by Major E. PETERKIN, 8th V.B. the Royal Scots.</i>	1	6	
386	<i>Tactics, Summary of, for Military Examinations.</i> By Lieut.-Col. S. MOORES. 4TH EDITION. Including Lessons of the South African War, 1899—1902. Revised by Capt. J. MARKHAM ROSE, R.M.A., p.s.c. Instructor R.M. Academy, Woolwich	6	0	
279	<i>Tactics for Beginners.</i> Compiled by Maj. C. M. DE GRUYTHER, p.s.c., The Suffolk Regiment. Late Instructor in Tactics R. Mil. College. Fully Illustrated with Plates. 2nd Edition. Revised in accordance with Combined Training	6	0	
<i>The Approved Text Book for Royal Military College, Camberley.</i>				
"Tactics for Beginners," by Major C. M. De Gruyther, Instructor in Tactics at the Royal Military College, is just what its title would lead us to expect. The author has placed himself in the position of the student entering upon the subject for the first time, and, recognising the difficulties and stumbling blocks, has made everything easy, and laid down a firm and good ground for future study. It is all most helpful and well done. Major De Gruyther begins with organization, describing the divisions of armies, from companies to army corps. He deals with time and space, is excellent upon outposts, marches, and the duties of advanced and rear guards. Reconnaissance, the three arms, individually and combined, orders, night operations, rivers, villages, woods, ditches, convoys, and savage warfare follows in his luminous pages. The book is just what it should be, and has already been adopted as a text-book at the Royal Military College."— <i>Army and Navy Gazette.</i>				
280	<i>Tactics, Modern, Thoughts on.</i> By Major-General H. M. BENEVOUGH, C.B.	1	6	
281	<i>Tactics, Minor.</i> By General CLERY	9	0	
282	<i>Tactics Made Easy for Non-Coms. and Men.</i> By Colonel H. D. HUTCHINSON, B.S.C.	0	6	
The Director of Military Education in India writes about it:—"It should be spread broadcast. The private soldier will even read it with interest and with profit; and the knowledge he will thus obtain will enable him to take an intelligent interest in military operations."				
283	<i>Tactics, Modern, A Precis of.</i> By HOME & Lieut.-Col. PRATT	3	0	
284	<i>Tactics, Modern, Elements of.</i> By Lieut.-Col. W. SHAW	9	0	
285	<i>Tactics, Lectures on.</i> By Col. F. H. DYKE	4	0	
287	<i>Tactics, Modern Outlines of.</i> By Lieut.-Col. E. GUNTER, p.s.c. 3rd Edition	7	6	
88	<i>Tactics of the Drill Books.</i> By Major C. G. MORRISON	5	0	
84	<i>Telescope in War, Use of the, and Notes on Scouting.</i> By Capt. W. GORDON-CUMMING, late R.M.I.	0	6	
<i>*Text Book of Fortification and Military Engineering,</i>				
	Part I.	5	0	
291	Part II.	6	0	

ALL GOODS SENT CARRIAGE PAID.

GALE & POLDEN, LTD., WELLINGTON WORKS, ALDERSHOT.

		s. d.
294	*Tirah Field Force, With the. By Capt. E. F. ANNAND, The Royal Scots	1 0
296	Trigonometry in a Nutshell. For general use by Sin. and Cos. only. By W. H. BIDDER, Author of "Stress Diagrams in Open or Lattice Girder Work, in Steel or Iron, Suspension Bridges and Rigid Arches"	0 6
377	*Trumpet and Bugle Sounds for the Army, 1903	1 0
297	TRUMPET and BUGLE SOUNDS FOR THE ARMY WITH WORDS. Words compiled and arranged by a Bandmaster. Bound in cloth cover. NEW EDITION	1 0
	"Messrs. Gale and Polden have sent us TRUMPET and BUGLE SOUNDS WITH WORDS. They have been compiled and arranged by Mr. A. C. Atterley, Band- master, 1st Royal Irish Regiment, and seem to be excellent. They are intended for Cavalry, Imperial Yeomanry, Royal Artillery, and Army Service Corps, and should be of use to trumpeters, buglers, and instructors, and also aid soldiers to learn the calls."— <i>Army and Navy Gazette</i> .	
	Veterinary, Manual for. See page 7.	
298	*Veterinary Services, Army, Regulations for	0 6
299	Vocabulary of Technical Military Terms. English-German, German-English. For the use of Military Students. By Professor J. A. LIEBMANN, F.R.S.L., F.R.G.S., etc., etc., with a preface by Gen. Sir WILLIAM GORDON-CAMERON, K.C.B.	5 0
301	Volunteer, Hints on Etiquette for Volunteer Officers. By an ADJUTANT. In limp Cloth	1 0
	"It is a very useful little book and contains rules for the guidance of Volunteer Officers in nearly every conceivable position, whether on parade, at mess, or elsewhere. The duties of officers are laid down in simple but clear language, and after studying this little book no Volunteer Officer can have the slightest excuse for a breach of etiquette."— <i>Weekly Press</i> , New Zealand.	
302	*Volunteer Garrison Artilleryman's Handbook. By Co- Sgt.-Major F. LEWIS, R.A., Instructor 1st Hants Vol. Arty.	2 0
303	*Volunteer Force, Regulations for	1 0
305	Volunteer Company Roll Book. Specially arranged, with Instructions for Camping, Marches, &c., &c.	1 0
306	Volunteer Section Roll Book. A most valuable little book, by which a Section Commander at a glance can give any information respecting his Section	0 6
370	Volunteer Colour-Sergeant's Roll Book, containing 4 of the Section Rolls bound in one book	1 0
	Volunteer Officers' Guide to Promotion. See No. 189, page 17.	
	Volunteer, Company Training made Easy (see page 8).	
310	Volunteer, Minor Tactics for. A Series of Lectures to Non- Coms. and men, by Major E. PETERKIN, 8th V.B. The Royal Scots	1 6
311	Volunteer Drill Attendance Register	1 0
312	Volunteer Section Parade State. In cloth cover	0 6
313	Ditto ditto ditto In sheets Per Doz.	1 0

ALL ORDERS MUST BE ACCOMPANIED BY A REMITTANCE.

GALE & POLDEN, LTD., WELLINGTON WORKS, ALDERSHOT

- Volunteer Practical Gunnery.** (See page 12.) s. d.
- 339 **Volunteer, Royal Garrison Artillery Roll Book and Handbook of General Information.** Strongly bound in leather, with Elastic Band, Pencil, etc. ... 1 6
- "It is of handy size for the pocket; and in addition to providing the necessary space of keeping the roll of a section, is replete with information of vital interest to Volunteer gunners, and should—as will probably be the case—be in the hands of every company in the Kingdom. It is quite a model of its kind. The price is the extremely moderate one of eighteen pence."—*Military Mail.*
- Volunteers, Army Forms for.** (See page 38.)
- 314 **Waterloo. A popular account of the Campaign.**
By Colonel H. D. HUTCHINSON, B.S.C. Paper ... 1 0
- 315 Ditto ditto ditto Cloth ... 2 0
- "Very graphic and succinct. No point omitted necessary to enable the reader to understand the strategy of Napoleon and his opponents."—*Broad Arrow.*
- "An excellent guide, and a most perspicuous exposition of the campaign,"—*Saturday Review.*
- 388 **Waterloo Campaign A Sketch of the.** A short tactical study for young Officers, to which is added the Duke of Wellington's Despatch. Containing coloured Map of the Campaign folded in a pocket. By Major SEYMOUR CLARKE, Q.O. Cameron Highlanders ... 4 0
- 316 **War Establishments** ... 1 6
- 317 **Washing Books for Company, Battery or Squadron** ... 0 6
- 318 **Woolwich, Royal Military Academy, Album of Views of.**
(For full particulars see page 40) ... 1 0
- 389 **Woolwich Arsenal, Album of Views.** See Page 40 ... 1 0
- 319 ***What to Observe, and How to Report it.** By Colonel LONSDALE HALE ... 0 6
- 345 **Winchester College, Album of Views of.** (For full particulars see page 40) ... 1 0
- Yeomanry and Mounted Infantry, Further Training and Employment of.** See page 17.
- 320 ***Yeomanry, Regulations for** ... 1 0
- 367 ***Ye manry, Imperial Training** ... 0 6
- 404 **Yeomanry, Imperial, Questions and Answers for.** By Captain C. H. ANDERSON-PELHAM, Lincolnshire Imp. Yeo. 0 9
- CONTENTS:—DEFINITIONS AND SIGNALS; CARE AND TREATMENT OF HORSES, EQUITATION, SADDLERY AND STABLES; SALUTING; GUARDS AND SENTRIES; SQUAD DRILL AND JUDGING DISTANCE; DRILL GENERALLY; SKIRMISHING; OUTPOSTS, ADVANCED GUARDS.

We pay Special Attention to all new Forms and Books that are useful to Pay-Sergeants; therefore any new work required can be supplied a few hours after its issue. If you don't find what you require in this list, please write for it.

A good useful Office Calendar with Bold Dates, one month at a glance. Post Free on application.

New Illustrated List for O.O. Companies and Pay-Sergeants, post free on application.

ALL GOODS SENT CARRIAGE PAID.

SERGEANTS' MESSES.

ACCOUNT BOOKS.

	s.	d.
No. 1.—Daily Liquor Consumption Book	21	0
No. 2.—Monthly Messing Account Book	21	0
No. 3.—Inventory of Mess Property Book	27	6
No. 4.—Daily Cash Takings Book	12	0
No. 5.—Monthly Statement and Balance Sheet	21	0
No. 6.—Caterer's Daily Stock Account Book	21	0
No. 7.—Monthly Stock Account and Proof of Cash Book	21	0
No. 8.—Billiard Account Book	15	0
No. 9.—Washing Book	4	0
No. 10.—Goods Order Book	5	0
No. 11.—Proposition Book	10	0

The above Books are made of the Best Account Book Paper, and are strongly bound in Leather. Account Books made to any special pattern on the shortest notice.

Books Strongly Recommended for Mess Tables.

	s.	d.		s.	d.
Aldershot Album of Views of Camp and Town	1	0	Guide to First Class Army School Certificate	4	0
Bisley Album of Views	1	0	Infantry Fire Tactics	6	0
Blotting Pads with Leather Corners each 1/6 and	2	6	Military Sketching Made Easy	4	0
Company Drill made Easy	1	6	Military Mail, The. See page 16.		
Duke of York's Royal Military School Souvenir Album of Views	1	0	Regimental Duties Made Easy	5	0
Field Training, Catechism on	2	6	Records and Badges of every Regiment and Corps in the Army	15	0
Guide to Promotion—Loc.-Corpl. to Corpl. and Corpl. to Sergt.	3	6	Sandhurst Album of Views of R.M. College, Staff College & District	1	0
Guide to Official Letter Writing, Orders, etc.	1	6	The Aldershot News. See page 2.		
			Woolwich Album of Views	1	0

INVITATION CARDS.		DANCE PROGRAMMES.		DANCE PROGRAMMES.	
		With Regtl. Crest.		"Wellington Series"	
				Beautifully Lithographed in Colours with Military Pictures on front.	
With Regl. Crest.		Without Cords & Pencils.	With Cords & Pencils.	Without Cords & Pencils.	With Cords & Pencils.
100 ... 6/6	100 ... 10/6	100 ... 21/-	100 ... 21/-	100 ... 30/-	
200 ... 11/6	200 ... 19/-	200 ... 38/-	200 ... 40/-	200 ... 58/-	
300 ... 15/6	300 ... 25/-	300 ... 52/-	300 ... 55/6	300 ... 82/6	
500 ... 24/-	500 ... 35/-	500 ... 80/-	500 ... 80/-	500 ... 120/-	

Envelopes to fit Invite Cards, with Crest of Regiment, 2/- per 100.

Orders executed within a few hours, and proof sent (when required) by return of post. Samples can be had on application.

Cloak-Room Tickets, in Books, on stout paper, good bold figures in duplicate and perforated; No. 1—1 to 200; No. 2—201 to 400; No. 3, 401 to 600. All at 1/- per Book.

BALL ROOM PROGRAMME STAND, 7/6.

Made in leather, gold lettered, supplied with bold figures from 1 to 24, and names of all dances (including Supper Dance), which may be instantly changed. For Balls and Quadrille Parties they will be found indispensable.

Made to stand, or hang up.

For Regimental Playing Cards, with the Crest of the Regiment, see page 33.

Reading Cases for Newspapers and Magazines. See page 34.

OFFICERS' MESSES.

The Royal Set of Account Books (copyright) arranged by Major D. Whyte.

	s.	d.
No. 1.—Order Book	5	0
No. 2.—Cash Account	12	0
No. 3.—Ledger, containing combined forms for all charges ...	28	0
No. 4.—Cellar Book	24	0
No. 5.—Messing Account	24	0
No. 6.—Daily Wine Account	24	0
No. 7.—Mess Sergeants' Stock Book... ..	24	0
No. 8.—Summary of Monthly Accounts	24	0
No. 9.—Breakage Book	10	0
No. 10.—Visitors' Book	20	0
No. 11.—Minute Book	10	0
No. 12.—Stock Book, for Linen; Silver; Glass and Furniture ...	12	0
No. 13.—Guest Book	10	0
No. 14.—Caterers' Daily Account of Messing Stores Purchased ...	12	0
No. 15.—Caterers' Monthly Grocery Account Book... ..	12	0
No. 16.—Whist or Bridge Book	12	0
No. 17.—Washing Book containing duplicate forms with special washing lists	2	0

The above are made of the best Account Book Paper, strongly bound in ½-Leather, and Lettered in Gold.

ACCOUNT BOOKS MADE TO ANY PATTERN.

Sample Sheets of any of the above and Mess Stationery on application.

	250	500
Daily Messing and Wine sheets, size 21 in. by 16½ in. ...	36/-	50/-
Cases for Names of President, Vice-President, etc., in Whole Red Leather, to stand on mantel-shelf or to hang up, Gilt finished	each	8 0
Guard Books for Invoices or Receipts, size 12 in. by 9½ in., ½-bound	each	5 0
Best Rubber Stamps, for Papers and Linen. (See Specimen Book, Post Free.)		
The Wellington Whist Scoring Tablet. 100 printed tear-off pages, with loop and pencil	each	1 6
Ditto ditto for Bridge	each	1 6

REGIMENTAL CREST PLAYING CARDS.

First Quality, with Crest beautifully printed in Colours from Plate—

The Printing is guaranteed to be Permanent, and is Enamelled after Printing.

6 doz. packs at 23/- per doz.; 12 doz. packs at 21/- per doz

NO CHARGE FOR COPPER PLATES

SAMPLES CAN BE HAD ON APPLICATION.

Reading Cases for Newspapers and Magazines. See page 34.

READING CASES

FOR

NEWSPAPERS and MAGAZINES.

	Half- Common Bound Cloth. Leather.		Half- Common Bound Cloth. Leather.
Aldershot News.	3/- ... 7/-	Nin'teenth Century	2/- ... 5/-
Answers ...	2/- ... 6/-	Pall Mall Mag.	2/- ... 5/-
A.B.C. Rail. Guide	2/- ... 5/-	Pearson's Mag.	2/- ... 5/-
Ally Sloper ...	3/- ... 7/-	Pearson's Weekly	3/- ... 7/-
Army and Navy	2/9 ... 7/-	Postal Guide	2/- ... 4/-
Army List (English)	2/- ... 4/-	Punch ...	2/- ... 5/-
Army List (Indian)	2/- ... 5/-	Royal Magazine	2/- ... 5/-
Black and White	3/- ... 7/-	*Regimental Paper	2/- ... 5/-
Blotting Cases	3/- ... 7/-	Scraps ...	3/- ... 7/-
Bradshaw ...	2/- ... 4/-	Sketch ...	3/- ... 7/-
Broad Arrow	2/9 ... 6/6	Sporting & Dram.	3/- ... 7/-
Cassell's Magazine	2/- ... 5/-	Sphere ...	3/- ... 7/-
Century ...	2/- ... 5/-	St. James's Budget	3/- ... 7/-
Cornhill ...	2/- ... 4/-	Strand Mag.	2/- ... 5/-
Country Life	2/9 ... 6/6	Tit Bits ...	2/- ... 6/-
Field ...	3/- ... 7/-	The King and his Navy and Army }	2/9 ... 6/6
Graphic ...	3/- ... 7/-	Truth ...	2/9 ... 6/6
Harmsworth Mag.	2/- ... 5/-	United Service	2/9 ... 6/6
Harper's Monthly	2/- ... 5/-	Vanity Fair ...	2/9 ... 6/6
Idler ...	2/- ... 5/-	Whitaker's Almanac.	2/- ... 4/6
Illustrated News	3/- ... 7/-	Whitehall Review	2/9 ... 6/-
Judy ...	2/- ... 5/-	Windsor Mag.	2/- ... 5/-
Military Mail	3/- ... 7/-	World ...	2/3 ... 7/-
Navy List ...	2/- ... 5/-		

To all half-bound Leather (back and corners) Cases the Crest of Regiment is added free of Charge.

* When ordering, please send a copy for size.

RECREATION ROOMS & LIBRARIES.

Books strongly recommended for Library Tables. s. d.

At Home with Tommy Atkins, fully Illustrated with 70 Illustrations	1	0
Aldershot Album of Views of Camp and Town	1	0
Aids to Obtaining a Hythe Musketry Certificate	0	9
Aids to Skirmishing	0	6
Aids to Scouting for Non-Coms. and men	1	0
Army Handbook of Physical Training	1	0
Atlas (Military)	2	0
<i>Aldershot News, The. See Page 2 of this Catalogue.</i>		
Bisley Album of Views	1	0
Boxing, The Modern System of Glove Fighting	2	4
Catch Questions in Infantry Training	0	6
Company Drill Made Easy	1	6
Duke of York's Royal Military School Album of Views	1	0
Encampments Made Easy	1	0
Fire Engine Drill and Instruction	0	6
Field Training, Catechism on	2	6
Free Gymnastics, Illustrated	1	6
Guide to obtaining a 3rd Class Army School Certificate	0	6
Guide to obtaining a 2nd Class Army School Certificate	1	6
Guide to obtaining a 1st Class Army School Certificate	4	0
Guide to Official Letter Writing, Orders, etc.	1	6
Guide to Promotion, Lance-Corpl. to Corpl., and Corpl. to Sergt.	8	6
Hints to Young Soldiers	0	6
How to Keep Fit	0	3
How to Post a Picquet	0	6
Manual and Firing Exercise for the Lee-Metford Rifle	0	6
Military Sketching Made Easy, Fully Illustrated	4	0
Military Examination in Arithmetic, Parts I., II. and III.	3	6
<i>Military Mail. See Page 16 of this Catalogue.</i>		
On Outpost Duty	0	6
On Guard	0	6
Physical Drill, Fully Illustrated, Bound in Cloth	1	0
Records and Badges of every Regiment and Corps in the Army	15	0
Strength, and How to Obtain it. By SANDOW	2	4
Sandhurst Album of Views of R.M. College, Staff College & District	1	0
Soldier's Pocket Manual	0	9
The Soldier's Health, and How to Preserve it	0	6
Woolwich Album of Views	1	0

Blotting Pads with Best Morocco Leather Corners, 1/6 and 2/6 each.

Playing Cards at 10/- and 12/- per Doz. Packs. Specially manufactured for the Army.

Pens 1/6 per Gross. Blotting Paper 1/6 and 2/- per Quire.

Penholders 3/- per Gross. Best Ink 1/- and 2/- per Bottle.

Tradesmen's Order Books, 3/6.

Rubber Stamp for Marking Papers, Magazines, etc. (See Specimen Book, Post Free).

For Reading Cases for Newspapers, please see page 34.

CANTEENS, GROCERY BARS AND COFFEE SHOPS.

ACCOUNT BOOKS (LATEST PATTERN).		Grocery Bar or Coffee Shop.	Liquor Bar.
<i>In accordance with Para. 31, Rules for the Management of Refreshment Branches of Garrison and Regimental Institutes (Vide Army Order, June, 1903.)</i>			
1. A.B. 272, Stock and Proof Account of Cash		12/6	7/6
2. A.B. 273, Account of Expenditure and Daily Takings		6/-	6/-
3. A.B. 274, Stock Book		12/6	7/6
4. A.B. 275, Extracts from Invoices		4/6	4/6
5. A.B. 276, Order Form for Goods... ..		1/-	1/-
6. A.B. 277, Abstract of Accounts		7/6	7/6
Ditto Ditto in sheets, 50, 7/6; 100, 12/-			
Squadron, Battery or Companies' Monthly Messing Account Book	15/-		

FORMS, ETC.

Daily Messing Books, Official Pattern, A.B. 48	Per Doz.	3/-
" " " Covers for same, in cloth, 1/3, with leather back, 2/6		
Price List of Articles sold in Canteen. Size 23½-in. by 16½-in., 25, 2/6, 50, 3/6, 100, 6/-		
List of Articles giving Percentage Form, Army Form F 707, 25, 4/-, 50, 6/-, 100, 8/-		
Canteen Debit Forms, Statement of Company Accounts, Memorandum Forms, etc., printed to order.		
Rules for the Management of Refreshment Branches of Garrison and Regimental Institutes. <i>Vide Army Order, June, 1903</i>		0 1

REGIMENTAL FORMS, ACCOUNT BOOKS, etc., PRINTED TO ORDER.

Permanent Passes.—These Permanent Passes are now being universally used throughout the Service; they are made in three sizes, suitable for the pocket as under: No. 1 size can be supplied with Army Form B 295 inside, they can also be printed to any Regimental Pattern for initialling monthly or otherwise; if 50 or more are ordered, the Crest of Corps is added free of charge.

No. 1 size closed, 3-ins. X 2½-ins.	No. 2 size closed, 3-ins. X 2-ins.	No. 3 size closed, 2½-ins. X 2-ins.
--	---------------------------------------	--

SAMPLES SENT ON APPLICATION.

Prices as under—

1 dozen, 3/-; 50 at 2/6 per dozen; 100 at 2/3 per dozen; 200 at 2/- per dozen; 500 at 1/9 per dozen; 1,000 at 1/6 per dozen. Strongly made in Red, Blue, or Green Cloth.

Passes.—Army Form B 295 ... per 100, 6d.; per 1,000, 4/-

REGIMENTAL CRESTED STATIONERY PACKETS.

Note Paper and Envelopes stamped with Regimental Crest in any colour. No charge for dies. Every Regimental die is kept in stock.

No. 1, containing 3 Sheets of Good Note Paper and 3 Good Square Envelopes, stamped in relief. Envelopes printed for franking when required.

No. 2, containing 4 Sheets of Good Note Paper and 4 Good Square Envelopes, stamped in relief. Envelopes printed for franking when required.

No. 3, containing 4 Sheets of Good Note Paper and 4 Good Square Envelopes, plain.

No. 4, containing 6 Sheets of Good Note Paper and 6 Good Square Envelopes, plain.

Stamping Guaranteed to be Perfect and done by Hand.

*WE HAVE NOW THE HONOUR OF SUPPLYING OVER 500 CANTEENS,
etc., THROUGHOUT THE SERVICE IN ALL PARTS OF THE WORLD.*

REGIMENTAL CHRISTMAS

AND NEW YEAR CARDS.

FOR SALE IN REGIMENTAL INSTITUTES.

Specially Designed according to Regiments' own Ideas.

Sketch (free of charge) and Estimate will be submitted
upon receipt of full particulars.

Prices vary according to Design—Orders of 500, from 3/- per doz.
" 1,000 " 2/6 "

Special Reduced Prices for large quantities.

Orders should be sent us, if possible, in July and August, and can be delivered
in November and December, or earlier for Regiments Abroad. Samples sent
upon Application.

ARMY FORMS, etc., KEPT IN STOCK.

ALL THE LATEST PATTERNS.		100.	1,000.
Absentee Reports, B 293	...	3d.	3/-
Crimes, B 252	...	1/-	6/-
Daily Parade States, B 263	...	3/-	25/-
Morning Parade State, Royal Artillery, B 257	...	3/-	25/-
Defaulters' Sheet, B 121	...	2/6	18/-
Envelopes for Field Reports, Army Form C 338	...	2/6	—
Free Kit Issue Sheet, B 111	...	2/-	15/-
Inventory of Kit, B 253	...	3/-	25/-
Magazine and Pouches Certificate	...	3d.	5/-
Memo. Forms, C 343	...	1/-	5/-
Identification Forms for Active Service, B 2067.	...	—	—
Printed on untearable linen	...	3/-	25/-
Morning Sick Reports, B 256	...	1/-	6/-
Passes (Railway) B 295a	In Books	1/-	—
Passes, B 295	...	6d.	4/-
Passes (Railway) Wives and Families, B 295b	...	1/-	—
Ration Returns, B 289	...	1/-	6/-
Return of Accommodations and Appointments, B 293	...	2/6	18/-
Statement of Accounts, Army Form C 1311	...	2/6	—
Statement of Accounts of Men Transferred, Army Form C 1312	...	3/6	—
Transfer Clothing & Necessaries Statement, Army Form M 1157	...	4/-	—
Weekly Church Parade States, B 253	...	2/-	15/-
Cash Book and Ledger for Sqdn., Bty., Troop, or Coy.	...	Each.	Doz.
Army Book 69	...	7/6	—
Daily Messing Book, Army Book 48	...	4d.	3/-
Defaulters' Sheet Specimen Form B 121, containing instructions for the filling in of the Reports	...	4d.	3/-
Falling Out Certificates	In Books of 100	6d.	—
Order Book, Army Book 137	...	1/6	—
" " Army Book 127	...	5/6	—
" " Army Book 129	...	3/-	—
Passes (Railway), Application for Warrant Officers' Short Leave Ticket	In Books	1/-	—
Pay and Mess Book, N 1504	...	3d.	3/-
Pay List, N 1505	...	5d.	3/-
" " Extra Sheets of Form I	...	1d.	1/-
Proceedings of Board of Examinations of M.O.	...	1d.	1/-
Officers for Promotion	...	1d.	1/-
Register of Documents Received or Emanating from Army Book 133	...	15/-	—
Road Report, B 153	...	3d.	2/-
Scale of Fines for Drunkenness, B 133	...	1d.	1/-
Signalling Scribbling Book, Army Book C 110	...	2/-	—
Signalling, Army Telegraphs and Signals Message Forms, Army Form C2121 (1)	In Books	2/-	—
Target Practice Register, B 190, for Individual Firing and Judging Distance Practice	...	2d.	2/-
Washing Book for Battery, Company or Squadron	...	6d.	—

FORMS FOR VOLUNTEERS.

Company Parade States	...	Per 100, 4/-	9d. per doz.
Guard Reports	...	Per 100, 4/-	9d. "
Captain of the Day's Reports	...	Per 100, 4/-	9d. "
Subaltern of the Day's Reports	...	Per 100, 4/-	9d. "
Target Practice Register, B 190	...	...	2/-
Cover for above	...	...	2/- each
Section Parade States, E 549.	In cloth cover	...	6d. each
	In sheets	...	1/- per doz.
How to Clean the Service Rifle.	Printed on untearable linen	...	1/6
for pocket	...	Per 100, 5/-	—

GALE & POLDEN'S
Photographic Albums of Views.

THE FOLLOWING ARE NOW READY :—

ALDERSHOT, containing Views of the Principal Institutions, Parades, Barracks and Camps, Route Marching, Drilling, Gymnastics, Boxing, Entraining, Life under Canvas, On Manœuvres, Field Days, etc.; also Photographs and Records of Generals who have commanded the District; and the Principal Views of the Town; over 50 Illustrations.

BISLEY CAMP. Upwards of 50 Illustrations of the Camp and various competitions in progress, from Instantaneous Photographs.

**PRICE
ONE
SHILLING
EACH,
Post Free.**



**Handsomely
Printed on
Fine Art
Paper and
In Covers
Lithographed
in Various
Colours.**

CAMBRIDGE UNIVERSITY, containing principal views of the Colleges, Chapels, noted objects of interest, University Sports, etc.

DUKE of YORK'S ROYAL MILITARY SCHOOL, CHELSEA, containing views of the interior and exterior of the School, the Commandant, Officers, and Staff, also showing daily life and instructions at the School, together with pictures of all kinds of sports, over 72 Illustrations.

ETON COLLEGE, with illustrations of exteriors and interiors of College, etc., and Snapshots of the Students at Sport and Study.

GIBRALTAR, containing views of the Fortifications, Barracks, Dockyard, and all objects of interest in the town and vicinity.

GREENWICH ROYAL HOSPITAL SCHOOL. An exceedingly interesting and admirably arranged memento of the School for seamen's orphans, founded by William and Mary. An excellent series of photographs show the home of the embryo Tar and his occupations and amusements therein.

MALTA, containing views of Fortifications, Dockyard, Barracks, and all objects of interest in the town and vicinity.

OXFORD UNIVERSITY, containing a large number of beautiful views of the different colleges, and of the undergraduates at their various amusements. It forms a handsome and unique souvenir of the famous University.

SANDHURST, ROYAL MILITARY COLLEGE, STAFF COLLEGE, YORKTOWN, and CAMBERLEY, containing views of the interior and exterior of Colleges, with snapshots of the Cadets, Bayonet Exercise, Gymnastics, Bridging, Field Works, Riding, Field Fortification, etc., etc., Portraits of the Commandants of the Colleges, and Views of the District.

THE TOWER OF LONDON, with Historical and Descriptive Notes. The numerous illustrations are reproduced from photographs and paintings, many of them now published for the first time. The Historical and Descriptive Notes have been specially written by The Viscount Dillon, P.S.A., Curator of the Tower Armouries.

WINCHESTER COLLEGE, containing upwards of 60 pictures, illustrating all the Historical Antiquities of the College with interiors and exteriors of the Buildings and snapshots of the College Sports, etc.

WOOLWICH, ROYAL MILITARY ACADEMY, containing all the principal views of the interior and exterior of the Academy, and the principal views of the Barracks and District.

WOOLWICH ARSENAL, with Photographic Illustrations of the Principal Machinery Shops, Cartridge Factories, Bullet and Shell Foundries, Turnery Shops, Wheel Factories, Boring Mills, etc., etc.

CANTERBURY, containing reproductions of famous Historical Paintings and many recent Photographs, with Historical and Descriptive Notes.

HARROW SCHOOL, containing reproductions of many recent Photographs, and Historical Notes.

The Photographs for the above Series of Albums have all been taken by our own Artists. Mounted or Unmounted Photographs can be supplied of any of the Views in the same.

PICTORIAL POSTCARDS

Beautifully Printed with VIEWS from Photographs specially taken.

The following are now ready :-

ARUNDEL.
ALDERSHOT CAMP and District.
A TRIP TO HAMPTON COURT.
BARNSTABLE.
BISLEY (N.R.A.)
BOURNOR.
BOSCOMBE.
BOURNEMOUTH.
ANTWERP.
CHATHAM DOCKYARD (1st Series).
" (2nd Series).
"CHRISTCHURCH."
CHICHESTER.
CLIFTONVILLE.
DEVONPORT.
DOVER.
DEVONPORT DOCKYARD.
EAST MOLESEY. (and District).
FARNBOROUGH (Hants)
FOLKESTONE.
HYTHE and School of Musketry.
HAMPTON COURT PALACE.
HAMPTON COURT & MOLESEY.
ILFRACOMBE.
KINGSTON and SURBITON.
LONDON.
MARGATE.
MOUNT EDGCOMBE.
NATIONAL GALLERY PICTURES.
NETLEY ABBEY.
NETLEY HOSPITAL.
PLYM. UTIL.
PLYMOUTH CITADEL.
POOLE.
PORTSMOUTH DOCKYARD.
PORTSMOUTH HARBOUR.
RAMSGATE.
SALISBURY CAMPS & District.
SANDGATE and SHORNCLIFFE.
SOUTHAMPTON.
SWANAGE & CORFE CASTLE.
TATE GALLERY GEMS.
TOWER OF LONDON (Interior).
TOWER OF LONDON (Exterior).

WALLACE COLLECTION.
WESTON-SUPER-MARE.
WOLLACOMBE BAY.
WOOLWICH ARSENAL.
WIMBORNE.
WINCHESTER.
R.N. BARRACKS, Chatham.
R.N. BARRACKS, Devonport.
R.N. BARRACKS, Portsmouth.
H.M.S. VICTORY. (Island).
H.M.S. EXCELLENT, Whale
H.M.S. CALLIOPE.
H.M.S. GOOD HOPE.
H.M.S. HERMES.
H.M.S. ROYAL SOVEREIGN.
H.M.S. ST. GEORGE.
H.M.S. BUZZARD (R.N. Vols.)
H.M.S. SUFFOLK.
H.M.S. CAMBRIDGE.
R.N. ENGINEERING COLLEGE,
Devonport.

Also latest Typical Pictures of the
DRUM HORSES of Famous Regts.
LIFE GUARDS.
ROYAL HORSE GUARDS.
SCOTS GUARDS.
21st (E. of I.) LANCERS.
ARMY SERVICE CORPS.
14th (King's) HUSSARS.
ROYAL ARTILLERY.
ROYAL HORSE ARTILLERY.
ROYAL FIELD ARTILLERY.
ROYAL ENGINEERS.
R.M.A., Eastney.
R.M.L.I., Deal.
R.M.L.I., Chatham.
R.M.L.I., Gosport.
R.M.L.I., Plymouth. (Chelsea).
DUKE OF YORK'S R.M. SCHOOL.
FIRST SURREY RIFLES.
SHIPS OF THE ROYAL NAVY.
LIFE IN THE NAVY (1st Series).
" " " (2nd " "
" " " (3rd " "

In Packets of One Dozen, Price 6d. per Packet, Post Free,

VICTORIA CROSS GALLERY, two Sets of 12 Cards, 1s. per set.
HUMOROUS MILITARY SKETCHES (1st Series).
HUMOROUS MILITARY SKETCHES (2nd Series).
NAVIES OF THE WORLD (1st Series).
NAVIES OF THE WORLD (2nd Series).
BRITISH ARMY—MOUNTED TROOPS (1st Series).
BRITISH ARMY—MOUNTED TROOPS (2nd Series).
SAVAGE CHARACTER SKETCHES.
BOOK PARTY TITLES.
PEKT PROVERBS.
ADAPTED ADVERTISEMENTS.
RECTIFIED RHYMES.
BRIDGE ILLUSTRATED.
MILITARY MOTORING.

PRICE 6d., Post Free (in packets containing 6 Cards printed in Colours).

REGIMENTAL COLOURS of the British Army (1st, 2nd, 3rd, & 4th Series). Beautifully printed in correct colors. Per Packet of 6 Cards, 6d.

Obtainable from all Booksellers, or from the Printers and Publishers—

GALE & POLDEN, Ltd.,

2, AMEN CORNER, PATERNOSTER ROW, E.C.,
and WELLINGTON WORKS, ALDERSHOT

or wid

deepin

d in 21

eminar

obser

sign. It

Indian

Manag

by Sta

Service

l Affair

Force

shed o

and re

Forces

ch as

ocio-e

petitic

tution

compe

of serv

se ess

d in 1

on ma

al and

and S

discuss

, inte

erest t

efit of

rded

able r

y may

o and

by the

ble to

in the

e) eligib